

CALIFORNIA STATE BOARD OF HEALTH

MONTHLY BULLETIN

Vol. 11

APRIL, 1916

No. 10

TABLE OF CONTENTS.

	PAGE
EDITORIALS—Lack of Birth Certificates May Make Martyrs—Truth Conquers Over "It Hurts Business"—Cancer Is Still "The Unsolved Mystery"—Study of Mental Hygiene Progressing—How Mental Diseases Can Be Prevented—Plague in Squirrels Is Still Found—Lost, Perfectly Respectable Board of Health—A Clean-Up Campaign that Produced Results—Association Seeks to Prevent Hay Fever—Reporting Malaria—Legacy Lost, No Birth Certificate-----	498
THE HIGH TUBERCULOSIS RATE-----	502
THE PREVENTION OF MENTAL DISEASE, by Eva Charlotte Reid, M.D., After-Care Physician, California State Hospitals, San Francisco-----	502
MENTAL HEALTH OF CHILDREN-----	504
CHARITIES AND CORRECTIONS CONFERENCE-----	504
REGULATIONS OF THE CALIFORNIA STATE BOARD OF HEALTH FOR THE PREVENTION AND CONTROL OF TUBERCULOSIS-----	505
TUBERCULOSIS IN CALIFORNIA-----	511
THE LEGAL REQUIREMENTS REGARDING THE REPORTING OF DISEASE BY HEALTH OFFICERS—Extract from an opinion by Kemper B. Campbell, Attorney for the California State Board of Health-----	512
BENEFITS OF PREVENTIVE MEDICINE TO STUDENTS AND EMPLOYEES -----	513
STUDIES OF DIETARIES IN STATE INSTITUTIONS-----	514
MALARIA AND MOSQUITO SURVEY-----	514
NINETEEN DIPHTHERIA CARRIERS IN A COLLEGE FRATERNITY, by John Nivison Force, M.D., Gr.P.H., Assistant Professor of Epidemiology, University of California, and Frank L. Kelly, M.D., Gr.P.H., Bacteriologist, Bureau of Communicable Diseases, California State Board of Health, Berkeley-----	515
REPORT OF THE APRIL MEETING OF THE STATE BOARD OF HEALTH-----	517
REPORT OF THE BUREAU OF ADMINISTRATION FOR MARCH, 1916, W. A. Sawyer, M.D., Director-----	520
"WINTER CHOLERA" AND BACILLARY DYSENTERY—Report of the Bureau of Communicable Diseases for March, Jas. G. Cumming, M.D., D.P.H., Director -----	522
BIRTH TOTAL FOR FEBRUARY, 1916, GREATER THAN FOR FEBRUARY, 1915—Report of the Bureau of Vital Statistics, George D. Leslie, Director-----	527
MARIN COUNTY TO BUILD TUBERCULOSIS PAVILION—Report of the Bureau of Tuberculosis for March, E. L. M. Tate, Director-----	531
INDIVIDUALS SECURE DAMAGES FOR SEWAGE DISPOSAL NUISANCES—Report of the Bureau of Sanitary Engineering for March, C. G. Gillespie, C.E., Director-----	532
MANY FIRMS CONVICTED UNDER PURE FOOD ACT—Report of the Bureau of Foods and Drugs for March, E. J. Lea, M.S., Director-----	535
CERTIFICATES ISSUED TO ONE HUNDRED AND FOUR GRADUATE NURSES—Report of the Bureau of Registration of Nurses for March, Anna C. Jammé, R.N., Director-----	541
LIST OF CITY AND COUNTY HEALTH OFFICERS-----	543

MONTHLY BULLETIN

CALIFORNIA STATE BOARD OF HEALTH

Devoted to the Prevention of Sickness and Death

☐ Entered as second-class matter, August 15, 1905, at the post office at Sacramento, California, under the Act of Congress of July 16, 1894.

Sent free, on request, to any citizen of California.

WILBUR A. SAWYER, M.D., Secretary and Executive Officer	Editor
GUY P. JONES, Morbidity Statistician	Associate Editor

Lack of Birth Certificates May Make Martyrs.

War conditions have again emphasized the importance of birth registration. From American Consuls in England there come cablegrams to the California State Board of Health which read like the following:

“Kindly mail birth certificate of John Doe, born in San Francisco, twenty-seventh September, eighteen eighty-one. Will remit fee.”

It is presumed that many Americans residing in England are alarmed lest they may be drafted into the army. In most cases the California State Board of Health is unable to furnish any proof of birth to such applicants, since the birth registration law did not go into effect until 1905 and some of the early county records were destroyed by fire in 1906. It is probable that many Americans in England will have great difficulty in avoiding service at the front in the European war, unless they may be able to obtain satisfactory proof of birth.

★ ★ ★ ★ ★

Truth Conquers Over “It Hurts Business.”

Not very long ago it was customary, as soon as an outbreak of communicable disease appeared in any city, for a muzzle to be applied to the local press. Such procedure always resulted in vague whisperings and consequent magnifications, until finally the outbreak was advertised as a pestilence of fearful magnitude. The excuse for this method was proverbially, “It hurts business.” Nothing could possibly be more fallacious, however, for, in the end, such exaggerated reports hurt business and injure the reputation of the city more than the simple truth would have done, if the presence of the outbreak had been universally recognized at first. According to the modern method, publicity is given to an outbreak as soon as it is discovered. The public is instructed how to avoid the disease and every possible means is taken to give information as to the exact status of the epidemic. It is easier to handle such a situation in the white light of truth and the city fares better commercially. A healthy city is an *asset* to the state and nation.

Cancer Is Still "The Unsolved Mystery."

In the New York State "Health Notes" for March, cancer, "the unsolved mystery," is discussed. The disease is referred to as "the greatest pathologic mystery of our day," and the outlook for its early solution is stated to be by no means reassuring. Perhaps the keynote of the bulletin is expressed in the following words:

"Except in avoiding certain specified causes of local irritation there is today nothing that any one of us can do to prevent the occurrence of cancer. On the other hand, there is incontrovertible testimony as to the probability of its cure in a large percentage of cases, if taken in time. That cure consists in the complete surgical removal of the growth at the earliest possible moment. Early diagnosis, early removal—there is not now, nor has there ever been any other successful method of curing the disease."

★ ★ ★ ★ ★

Study of Mental**Hygiene Progressing.**

Realizing that there are many problems that can be met through the efforts of an organization devoted to the promotion of mental hygiene, a society composed largely of physicians and social service workers has been organized in California under the name of the California Society of Mental Hygiene. This organization is planning constructive work in the development of mental hygiene, and in the prevention of mental disease. Its desire to engage in constructive work is manifested in the suggestions for the protection of the mental health of children, which are printed in this number of the Bulletin.

★ ★ ★ ★ ★

How Mental Diseases Can Be Prevented.

The prevention of mental disease is one of the fields of preventive medicine that has hardly been entered. The problems relating to it are closely akin to the problems entering into the prevention of social diseases, such as tuberculosis, except for the fact that the prevention of mental disease depends not only upon the bettering of social and economic conditions, but also upon eugenics and heredity. In this number of the Bulletin there is published an article upon the subject by Dr. Eva Charlotte Reid, After-Care Physician, California State Hospitals. This article will repay all who may read it. The problem is handled in a clear and positive manner.

★ ★ ★ ★ ★

Plague In Squirrels Is Still Found.

A few years ago thirteen California counties were found to be infested with plague-infected ground squirrels. Eradicative measures taken jointly by the California State Board of Health and the United States Public Health Service, reduced this number of infested counties to only two. Contra Costa and Alameda. During March three plague-infected squirrels were found in Monterey County on the Raymond ranch, nine miles north of Salinas.

Lost—Perfectly Respectable Board of Health. The following clipping is from a recent issue of a newspaper in a California town:

HAS ANYBODY HERE SEEN CITY BOARD OF HEALTH?

LOST—One perfectly respectable Board of Health. Finder will please report to city authorities.

The foregoing advertisement has not been inserted in any newspaper as yet, but may become necessary soon. The Board of Health has not held a meeting in months, although feeble efforts have been made on one or two occasions to get the members together. Once, the secretary was instructed to call a meeting, but he forgot it. Likewise, the members of the board forgot it.

It was discovered a few days ago that one member had resigned his place. So far as is known, this is the only demise.

★ ★ ★ ★ ★

A Clean-up Campaign That Produced Results. Clean-up day was celebrated in Alturas on April 8th. The following notice was mailed to the residents of that city:

April 8th, 1916, is CLEAN-UP-DAY for ALTURAS.

Free teams to haul away your trash and rubbish, free dinner for all workers on that day. Begin now if you wish and have your trash and all other garbage of whatever nature ready for these free teams on that day.

Your earnest co-operation in this work is invited by the entire town of Alturas.

CITY BOARD OF HEALTH.
PARENT TEACHERS ASSOCIATION.
CITY BOARD OF TRUSTEES.
ALTURAS FIRE DEPARTMENT.

The business houses closed, and nearly every one in the city worked at cleaning up. Eighteen teams with wagons and drivers moved ninety-seven loads of refuse, and large quantities in addition were disposed of by burying in abandoned wells and other places. It is estimated that 127 loads of refuse were disposed of in this way. Not more than half of the refuse that was gathered together was hauled away, and it will take another day's work to dispose of this rubbish. Such a campaign, successfully conducted, may have a very far reaching effect upon the community health.

★ ★ ★ ★ ★

Association Seeks to Prevent Hay Fever. Hay fever is the subject of investigation by the American Hay Fever Prevention Association.

While it is not so prevalent in California as in many other states, there are a great many persons who suffer annually from this most irritating and unpleasant malady. It is not known definitely just which plants in California are responsible for

the disease, but it has been pretty definitely established in eastern states that the pollen from the rag weed is the chief agent in producing the disease. It is hoped that active preventive measures may be adopted in California as soon as more definite information concerning the local problem is obtained. At all events, it is certain that many thousands of hay fever sufferers will welcome the advent of the American Hay Fever Prevention Association.

★ ★ ★ ★ ★

Reporting Malaria. California has no excuse for having scattered up and down the great interior valleys, areas in which malaria is prevalent. A little attention and some vigorous control work would practically wipe out this scourge. In spite of the fact that malaria could be easily prevented in any part of the State, there is an astonishing lack of interest in preventive measures. Physicians quite generally fail to report the disease in accordance with the law. Only by the help of information regarding the number and distribution of the cases is the community able to determine where control is needed, and to measure the success of the mosquito eradication.

★ ★ ★ ★ ★

Legacy Lost—No Birth Certificate. The *Sacramento Star* says: "Importance of birth registration, so lightly regarded by many physicians, is seen in the statement of the state boards of health in several states, that they have requests from lawyers and parents every day for transcripts of birth certificates which oftentimes can not be supplied because of the carelessness of the physician. The birth record is frequently of great consequence in legal actions.

"An instance recently came to light in which a physician's failure to report a birth cost a little girl a legacy of \$12,000. In another case a mother was unable to prove the legitimacy of her child because she was unable to produce a birth certificate. Americans living abroad have been put to considerable inconvenience and have occasionally lost fortunes because they had no proof of their American birth. Vital statistics, moreover, are valueless if great numbers of births are not reported.

"Even a busy physician, it would seem, should be able to find time for performing this important service and obeying the law. Indeed, it is part of the work for which he collects his fee.

"Doctors have sometimes questioned the constitutionality of the law, but the responsibility to the individual and to society should make a law unnecessary. The careful practitioner will report births promptly, but it might be well for the parent to aid the Board of Health by being sure that he does so."

THE HIGH TUBERCULOSIS RATE.

The cut on the cover of this Bulletin shows graphically the magnitude of California's tuberculosis problem. The high rates that have prevailed every year during the past ten years are kept high by the large numbers of deaths from tuberculosis of persons who have come to California from other states. The statement of Assistant Surgeon General J. W. Trask, published elsewhere in this Bulletin, indicates that the excess of tuberculosis deaths over those belonging to California amounted in 1913 to 2,973 deaths.

The fact that deaths in imported cases keep the rate high, however, does not mean that California has no home problems in tuberculosis. Not only has California a large amount of work to do in correcting economic and social conditions having to do with tuberculosis, but she also has much to accomplish in providing more beds and better care for cases in citizens of the State. Under the new subsidy law, great improvements have been made in many county hospitals, but the work that has been accomplished so far is merely an entering wedge. The tuberculosis problem in all of its intricacies and in its appalling magnitude still lies before us.

THE PREVENTION OF MENTAL DISEASE.

By EVA CHARLOTTE REID, M.D., After-Care Physician,
California State Hospitals, San Francisco.

The prevention of mental deficiency and disease is a wide subject and has to do with everything that touches mentally, morally or physically the life of the individual and his ancestors. Among the principal means of prevention are:

First—Eugenics. The negative phase of this question—the prevention of the propagation of the unfit by sterilization, is fortunately provided for by the laws of California; public opinion should be educated to the point where it can be more fully taken advantage of. Eugenics still has many unsolved problems, but one fact has been definitely established, namely, that under no conditions can two feeble-minded persons produce a normal child. The positive phase of the question is conservation of the fit. When the eugenesis of man is given as careful and scientific attention as the breeding of plants and animals, and when parents study the health accounts as carefully as the bank accounts of their future sons and daughters-in-law, there will be some hope for the human race.

Second—The restriction or prohibition of the sale of alcohol and habit-forming drugs. Alcoholism and drug addiction are the rocks upon which are wrecked the barks of many of the semi-insane and semi-responsible who are drifting on the edges of normality—the sub-normal or feeble-minded on one side and the super-normal and psychopathic on the other. Twenty-seven per cent of all the admissions to the California state hospitals are due to alcoholic insanity and alcoholism and drug addiction. Mental tests performed in one of the state hospitals showed that 75 per cent of these individuals are feeble-minded. Some

are demented, others are constitutional psychopaths; it is a question whether any of them could be called normal. As well give a year old child a loaded revolver and tell him not to harm himself as to turn these individuals loose in a community where the sale of alcohol is unrestricted and expect them to keep sober. In addition to the injury which the alcoholic inflicts on his own mentality he imposes upon his progeny a hereditary burden which may extend to the third generation. Tredgold, the English psychologist, places alcohol second in the causal factors of feeble-mindedness in children.

Third—The elimination of syphilis by the abolition of drunkenness, the education of the young in sex hygiene, and the compulsory reporting of all cases to the health department by physicians.

General paralysis of the insane, an incurable malady caused by syphilis, is responsible for about 14 per cent of admissions to state hospitals according to New York hospital reports. The number of cases of epilepsy, feeble-mindedness and insanity for which syphilis is responsible through hereditary taint can only be surmised at the present time.

Fourth—The conservation of the physical health by preventive medicine and hygienic living. Among the preventive physical causes of mental disorder are pellagra, tuberculosis, fevers, toxic conditions, lead and gas poisoning, head injuries, malnutrition, overwork, and unhygienic conditions in homes and workshops.

Fifth—The instruction of educators in psychology, and physicians in psychopathology in order that they may be able to assist the mentally weak in the solution and adjustment of the complex problems of life. Aside from heredity the most potent cause of functional mental disorders is maladjustment. The number of misfits in professional, business and social life is appalling. The attempt by women without conjugal or maternal affection or capacity to fill the role of wife and mother has been the cause of an untold number of mental breaks.

Sixth—The early treatment of mental cases in psychopathic hospitals or wards. The man with a broken mind should be able to receive treatment as promptly and easily as the man with a broken arm. He should not have to be subject to arrest, detention in the custody of a sheriff, and trial before a judge before he can receive medical care and treatment.

MENTAL HEALTH OF CHILDREN.

The California Society of Mental Hygiene, which is composed of physicians and social service workers throughout the State, has prepared some suggestions for the protection of the mental health of children, which, because of their worth, are printed here.

SUGGESTIONS FOR THE PROTECTION OF THE MENTAL HEALTH OF THE CHILDREN.

No feature of the Mental Hygiene campaign is more important than that which has to do with the protection of the mental health of children.

The following brief suggestions are regarded by experts as among those essential in promoting the mental health of your child:

Give your child opportunity for a variety of wholesome activities and interests.

Train your child to work hard in some regular occupation suited to his ability and talents; but to avoid fatigue by alternation of work and rest.

Train your child to give attention to the present situation.

Train your child to strict obedience in a few important matters and let him alone in regard to the unimportant things.

Avoid conditions that tend to produce overstrain or precocity. The special business of a young child is to grow and to play with other children.

Give your child a variety of well-cooked, wholesome food in ample quantity at regular intervals.

Train your child to healthful habits of sleep in fresh air, giving opportunity for at least nine hours, and for more than that before the age of twelve.

If your child becomes worried or sleepless, or has muscular twitchings or the like, consult a competent physician at once.

Take advice of a competent person concerning the peculiar, sensitive or nervous child, in order to correct a possibly bad inheritance by proper education and environment.

The best method of training is by example.

CHARITIES AND CORRECTIONS CONFERENCE.

Health subjects are coming into their own in the councils of social workers. The revised program has just been issued for the forty-third annual meeting of the National Conference of Charities and Corrections which is to occur at Indianapolis May 10-17. It begins with an address by Ernest P. Bicknell of Washington, D. C., on measures adopted by the Red Cross and other agencies in warring countries, and contains a dozen section meetings on health questions. These include health insurance, venereal diseases, mobilizing against alcoholism, industrial hygiene, medical social work, physical care of school children, research work in public institutions, oral hygiene, the function of the psychopathic hospital, and the relationships of physical well being to efficiency and to heredity.

Dr. J. N. Hurty, of the Indiana State Board of Health, is chairman of the division on health, and speakers are drawn from all parts of the country. It is likely there will be a special social function for medical men in attendance upon the conference. The organization brings together about 2,500 men and women engaged in practical social work, voluntary and public, in the United States and Canada.

REGULATIONS OF THE CALIFORNIA STATE BOARD OF HEALTH FOR THE PREVENTION AND CONTROL OF TUBERCULOSIS.

(Adopted April 1, 1916.)

Rule 1. Notification.

Any person in attendance on a case of tuberculosis, or a case suspected of being tuberculosis, shall report the case immediately to the local health authority, who shall in turn report at least weekly, on the prescribed form to the Secretary of the State Board of Health all cases so reported to him.

Note 1.—In the absence of local rules permitting notification by telephone, the report to the local health authority shall be in writing. In addition to the required notification physicians are expected to fill out and transmit the special data card of the State Board of Health whenever requested by the local authority.

Note 2.—Any physician in attendance on a case of tuberculosis who fails promptly to report the case to the local health authority is guilty of a misdemeanor punishable by a fine of not less than twenty-five dollars nor more than five hundred dollars, or by imprisonment for a term of not more than ninety days, or by both such fine and imprisonment. (See Public Health Act, Statutes of 1907, page 893, sections 16 and 21.)

Rule 2.

Records of individual cases of tuberculosis shall not be kept so that they are accessible to the public, and special care shall be taken to protect the privacy of these records.

Note 1.—The special data card should not be mailed as a postal card, but should be enclosed in an envelope.

Note 2.—The state laws do not require that all official records must be accessible to any one who demands to see them. Attempts may be made by patent medicine sellers or others to gain access to the individual tuberculosis records and secure the names and addresses. This must always be prevented. The information in these records is only for the use of the health officials and for statistical tabulation. Health officers are instructed to refuse access to these records unless the right to see the particular record has been established by process of law.

Rule 3. Diagnosis.

The local health authority may require the submission of specimens of sputum from cases of tuberculosis, or cases suspected of being tuberculosis, for the purpose of examination by a state or municipal laboratory. It shall be the duty of every physician attending a case of tuberculosis to submit samples of sputum for examination when required to do so by the local health authority.

Note 1.—Examinations of sputum for tuberculosis will be made without charge by the Bureau of Communicable Diseases, at the State Hygienic Laboratory in Berkeley, or the branch laboratories

in Los Angeles, Fresno, and Sacramento, for all communities except cities having a population of over 25,000. It is expected that these larger cities will provide adequate laboratory facilities. (See directions for sending material to the laboratory.)

Rule 4. Instructions to household.

It shall be the duty of the physician in attendance on a person having tuberculosis, or suspected of having tuberculosis, to instruct the patient and the other members of the household in precautionary measures for preventing the spread of tuberculosis.

Note.—The following instructions are required by Rule 4 in cases of active pulmonary tuberculosis:

1. The patient shall destroy all his sputum by burning. He should spit only into a paper sputum cup or pocket cuspidor, and when these are filled he should burn them.

2. He should hold a cheese cloth handkerchief in front of his mouth when he coughs, so as to prevent minute particles of sputum "loaded" with tubercle bacilli from being sprayed about the room. He should never spit into this cloth, but should use a sputum cup or pocket cuspidor. When soiled, the cloth should be burned. It should not be used for more than one day. After handling a cloth or other object soiled with sputum, the hands should be thoroughly washed with soap and water.

3. He should never cough into his bare hand, and he should wash his hands frequently.

4. The patient should have his own private drinking and eating utensils. They should be washed and dried by themselves, and boiled if they are ever returned to the common supply.

5. Remnants of the patient's food should be destroyed.

6. He should put nothing into his mouth except food, drink, his thermometer, and his toothbrush.

7. He should sleep alone.

8. He should live in a house effectively screened against flies, and flies should never be permitted to have access to his sputum.

9. When the patient's washable clothing, bed-linen, and towels have been soiled with sputum, or where conditions are such that gross infection is probable, they should be boiled or otherwise disinfected before being sent to a public laundry. Disinfection can be brought about by soaking for one hour in 5 per cent phenol (carbolic acid) or 10 per cent formalin. In cases where the consumptive has been careful such extreme precautions are usually not needed. In case of doubt the health officer should decide.

10. Any objects accidentally soiled by sputum should be disinfected and then cleansed.

11. The patient should avoid contacts capable of transferring the infection, such as kissing, or playing with babies and small children.

12. He should spend as much time as possible out of doors, not only because of the beneficial effect of fresh air, but also because the danger of infecting others out of doors is less than in the house. Sunshine and drying gradually kill the tubercle bacilli.

13. The booklet "What you should know about Tuberculosis" can be obtained from the Bureau of Tuberculosis, State Board of Health, Sacramento, and should be in every household containing a consumptive.

Rule 5. Investigation of case.

Upon being notified of a case of tuberculosis, or a case suspected of being tuberculosis, the local health authority shall make an investigation and shall determine that the instructions specified in Rule 4 are understood and observed, and in the event of their nonobservance, shall take proper legal steps for their enforcement.

Note 1.—In conducting the investigation prescribed in Rule 5, it is advised that the information required by the special data card of the State Board of Health be obtained, and that special inquiry be made regarding the danger of spread of the infection through occupation or because of conditions within the household.

Note 2.—Persons having open pulmonary tuberculosis should not be engaged in the preparation or serving of food. They should not be allowed to teach or care for young children. This applies only to "open" cases.

Note 3.—As far as possible the curable cases should be induced to undergo systematic care under the supervision of a competent physician in a public or private institution in order that the lesions may heal, and the expulsion of infectious sputum may be stopped. Advanced cases should be cared for in proper public or private institutions, as far as possible, as they are liable to spread the disease to children and others in their households. Under the State subsidy the county hospitals are providing more and better care for the tuberculous.

Note 4.—The family physician and the health officer should pay special attention to detecting beginning cases of tuberculosis in the consumptive's family. Attention to the other members of the family will often lead to the detection of cases in their early stages and permit treatment while the case is still easily curable. Every case cured or arrested is one more focus of infection removed.

Rule 6. Termination of a case.

When a consumptive recovers or dies or moves outside the jurisdiction of the local health authority, the attending physician, or, in the absence of an attending physician, a responsible member of the household shall notify the local health authority. If departure to the jurisdiction of another health authority is contemplated, the State Board of Health shall be notified, by the local health authority, of the name of the patient and his destination.

Rule 7. Disinfection.

When the rooms of a consumptive are vacated they shall be thoroughly cleansed before being occupied by another person, and such additional disinfection shall be performed by the owner or occupant as may be found necessary by the local health officer. (See directions for disinfection.)

Note.—The principal danger of transfer of infection from the sick to the well lies in frequent proximity of a susceptible person

to a careless consumptive. There is, however, some danger from objects which have been recently soiled with sputum and therefore the premises must be properly taken care of. After a careful consumptive has occupied a room little needs to be done to it more than a thorough cleansing. The methods of cleansing and disinfecting will be discussed under "Directions for Disinfection."

GENERAL DIRECTIONS.

Directions for Sending Material to the Bureau of Communicable Diseases for Examination for Tuberculosis.

Physicians and local health authorities in communities having a population under 25,000 may obtain from the Bureau of Communicable Diseases, Berkeley, or any of its depositaries, outfits for collecting and mailing specimens of sputum to the laboratory for examination for tubercle bacilli. The following directions and data card accompany the outfit:

CALIFORNIA STATE BOARD OF HEALTH.

State Hygienic Laboratory, University of California, Berkeley.

DIRECTIONS FOR COLLECTING AND SENDING SPUTUM.

The expectoration discharged in the morning is preferred.

Have the patient wash out the mouth and throat with pure water early in the morning and then cough up the sputum from the lower air passages.

Care should be taken that the contents of the stomach, articles of food, etc., are not discharged during the act of expectoration and collected instead of the ordinary sputum. Purulent, cheesy and muco-purulent sputum most frequently contain the bacilli; pure mucus, blood or saliva do not, as a rule, contain the bacilli.

If the expectoration is scanty, the entire amount discharged in twenty-four hours should be collected. Close bottle tightly to avoid leakage. Write patient's name on the label on the bottle.

The sputum should not be kept, but forwarded in as fresh a condition as possible. Send sputum in the outfits furnished by the laboratory and in no other containers.

CALIFORNIA STATE BOARD OF HEALTH.

State Hygienic Laboratory,
University of California, Berkeley.

Please fill out this side of blank in full and send to laboratory with sputum.

Patient's name _____ Address _____

Physician's name _____ Address _____

Health Officer's name _____ Address _____

This is the 1st, 2d, 3d specimen from this case. Date _____

Patient's age _____ Sex _____ Occupation _____

Are there other cases in the same household? _____ If so, how many? _____

Clinical diagnosis _____

Report by { telephone
 { telegraph (collect)
 { mail

Directions for Cleansing and Disinfection.

When premises have been vacated by a person sick with open tuberculosis they must not be occupied until there has been a thorough cleansing, and as much additional disinfection as is necessary in the judgment of the local health officer, and is consistent with the regulations of the State Board of Health.

After the removal of any case of open tuberculosis the rooms, furniture, and belongings should be thoroughly cleansed. Such cleansing should be performed at the expense of the owner or occupant of the premises. Cleansing shall consist of thorough removal of dust and other contaminating material, washing and scouring of woodwork, floors, and furniture with soap or soda and hot water, prolonged airing, and as far as practicable, exposure to sunlight. When in the opinion of the health officer renovation is also necessary, this may consist of repapering, repainting, or recalcimining of walls and woodwork.

In some cases the nature of the construction or contents of the rooms and the previous habits of the patient will necessitate disinfection in addition to cleansing and renovation. Surfaces may be disinfected by the addition, to the wash and scrub water, of an adequate amount of a disinfectant whose strength is known in terms of phenol coefficient. In rare cases fumigation may be needed for disinfecting rugs or certain fabrics, but cleansing and several days of thorough sunning will usually suffice. Bedding and cloth surfaces intimately exposed to infection should be boiled, soaked in a disinfectant, or steam sterilized. Mattresses, if they have been adequately protected during use by being covered with a washable, frequently changed bag of heavy cloth are safe for use after surface cleansing and thorough airing and sunning. Mattresses or blankets which have been grossly soiled with sputum should be sterilized by steam or destroyed.

In determining the method and amount of disinfection required it should be kept in mind that the infection will be limited to the objects with which the patient came in contact or which were reached by his sputum or droplets expelled in coughing and talking. The principal attention must therefore be paid to the lower part of the room and objects which were within reach of the patient.

Registration of Tuberculous Patients.

The object of state registration of tuberculous patients is the collection of data which will enable the Bureau of Tuberculosis to estimate the extent of the tuberculosis problem in California and will assist it in formulating plans for control. In order that these ends may be attained, it is necessary that the Bureau should be in possession of as many facts as it is possible to secure regarding the housing conditions, financial standing, social and family relations of the patients, as well as to learn of the probable source of infection, the exposure of healthy persons by the tuberculous, and the amenability of the patient to discipline. The members of the medical profession will realize that a great amount of valuable data, from which to draw conclusions, and to formulate plans, will be collected if every case of tuberculosis in the State

is fully reported on the regular form. The state law makes it mandatory upon physicians to report all cases of tuberculosis to the State Board of Health. The Bureau hopes to secure that hearty co-operation of the medical profession which it has every right to expect.

The form for furnishing supplementary data on reported cases of tuberculosis is given below. Blanks will be furnished to local health authorities, upon application to the State Board of Health.

CALIFORNIA STATE BOARD OF HEALTH
Bureau of Tuberculosis
REPORT OF A CASE OF TUBERCULOSIS

* { Single
Married
Widowed
Divorced
Separated
-

Sex----- (Divorced / Separated)

 * { Good
Occupational Fair
conditions: Poor

*Type of Disease

Larynx
Lymph Glands
Peritoneum
Bones
Intestines
Meninges
Skin

Age-----

County---

lent
rner

---mos---

[illegible]

—

nt received

tuberculosis

11

nois: (*Go

Date _____

----- Dan

no visit made
mission to Sta

The State Law requires you to report all cases of Tuberculosis

TUBERCULOSIS IN CALIFORNIA.

An extract from the statement of Dr. J. W. Trask, Assistant Surgeon General, United States Public Health Service, in a hearing before the Committee on Interstate and Foreign Commerce in the House of Representatives on House Resolution No. 8352:

DR. TRASK. Mr. Chairman and gentlemen, there are no absolute figures on a thing of this kind, as you will readily appreciate. In the first place, it is impossible to say just how many tuberculous patients there are in the State of California, and it is quite impossible to state how many of them will become indigent, and quite impossible to say how many of those that become indigent would be subject to the provisions of this bill. However, we can get an idea of the number. I believe we can estimate the probable maximum and also the minimum that would come under this bill.

The State of California has fairly accurate records of the number that die of tuberculosis in a year. This number is a little over 200 persons per 100,000 inhabitants of the State of California. Now, the State of California, by reason of the nature of her climate and economic conditions and her type of people, should certainly have no more deaths from tuberculosis in proportion to her population than does the State of Michigan. The State of Michigan in 1913 had less than 100 deaths from tuberculosis per 100,000 population. California, in other words, has twice as many deaths per 100,000 people as the State of Michigan does. We must therefore come to the conclusion that the excess of the death rate from tuberculosis in California over that of Michigan is due to the outsiders who have gone to California. Now, this excess in the State of California for the year 1913, which is the year I have taken as a basis, amounted to 2,973 deaths.

From work that has been done and surveys that have been made, we may say that there will be about 10 cases of tuberculosis in a community for every death that is registered as occurring from the disease during the year. The variation from this will not be great. That would make in the State of California 29,730 tuberculous patients who have come from other states. I have estimated that of these there will be 1,651 that would be entitled, under this bill, to care in hospitals as indigents. Most people who go to California go with some money, and if they become indigents they do not do so until after they have been there for at least some months. Now, on the basis that Colorado, Texas, New Mexico, and Arizona would have twice as many altogether as the State of California, and that in the rest of the United States there would be as many as in the State of California, I have figured that there will be subject to the provisions of this bill 6,600, or thereabouts, in the United States. That is, of course, only an estimate.

THE LEGAL REQUIREMENTS REGARDING THE REPORTING OF DISEASE BY HEALTH OFFICERS.

(Extract from an opinion by KEMPER B. CAMPBELL, Attorney for the California State Board of Health.)

Section 2979a, Political Code, makes it the duty of each coroner and every county, city and county, city or town health officer and every member of the local board of health "knowing or having reason to believe" that any "contagious or infectious disease exists," etc., "to report at once in writing" such cases to the secretary of the State Board of Health in Sacramento. By the same statute it is also made the duty of "every attending or consulting physician, nurse, or other person, having charge of or caring for any person afflicted with any of said contagious diseases, to report at once in writing to the local board of health, or local health officer," etc. Section 2984, Political Code, imposes upon the board of health of each municipality and "every chief executive health officer thereof" the duty of reporting to the State Board of Health, "on or before the fifth day of each month, all infectious, contagious and communicable diseases" which shall come to his or their knowledge, etc., and shall report, in cases of local epidemic of disease, all facts concerning the disease and measures taken to prevent or abate its spread, etc.

The Public Health Act, as amended in 1911 (the subsequent amendment of 1913 does not affect the matter of reports), provides, in section 11, that local health officers shall report to the State Board of Health "all violations of the health laws," etc. Also, that such health officers shall "report in writing to the State Board of Health regularly on or before the fifth day of each month, and also *whenever required by the State Board of Health*," infectious, contagious and communicable diseases, etc. Also, report regarding epidemics, etc.

Section 13 of the foregoing statute also provides that local boards of health and local health officers must render full reports in writing with reference to quarantine cases.

Section 16 of said act requires that "physicians," etc., shall "promptly report" such communicable diseases to the local health officers.

Penalties. The penalty provided under the Public Health Act last referred to, for a violation of any of its provisions, is that the person so violating "shall be guilty of a misdemeanor, and upon conviction shall be punished by a fine of not less than twenty-five dollars and not more than five hundred dollars, or by imprisonment for a term of not more than ninety days, or by both such fine and imprisonment."

Penal Code, section 378, provides that "every person charged with the performance of any duty under the laws of this state relating to the preservation of public health, who wilfully refuses or neglects to perform same, is guilty of a misdemeanor."

Penal Code, section 19, provides that the punishment for a misdemeanor is imprisonment in the county jail not to exceed six months, or a fine not exceeding five hundred dollars, or both.

The statutes also provide for the removal from office of any public officer who misconducts himself, or is guilty of neglect or violation of official duty: Penal Code, section 661, section 758, etc.

Validity and effect of laws. Without burdening this communication with a multiplicity of citations, it is sufficient to say that statutes passed under the exercise of police power, providing for reports to a state board of health of the nature involved here, have been uniformly upheld by the courts: *State vs. Boone*, 84 Ohio 346; *Robinson vs. Hamilton*, 60 Iowa 134; *Commonwealth vs. McConnell*, 116 Ky. 358; *People vs. Brady*, 90 Mich. 459.

It has been held that such statutes must be strictly followed: *Chicago vs. Craig*, 172 Ill. App. 126.

Under the statute providing that a physician shall "immediately" notify the health officer of the existence of diphtheria, that a delay of eight days is unreasonable and the conviction of the physician was upheld: *People vs. Brady*, 90 Mich. 459.

Such statute must not, however, be unreasonable, but statutes similar to our own have been held to be a reasonable exercise of the police power.

Resolution of the California State Board of Health.

Resolved, That every local health officer shall report each week to the State Board of Health, on the blanks furnished by the Board, the presence of communicable diseases on the published list of diseases whose report is required, by law, together with such data as are indicated by the report blanks furnished; and where the health officer has no knowledge of the presence of such diseases, he shall report the absence in the same manner.

BENEFITS OF PREVENTIVE MEDICINE TO STUDENTS AND EMPLOYEES.

Dr. Richard Cabot of Boston, in the April number of the *American Magazine*, praises the work in preventive medicine that is being accomplished by the University of California. The seven thousand students in the University, by paying a small annual fee, are entitled to free attention and treatment in the University Infirmary any and every day in the year when they may need it. As a result, trifling ailments, that may possibly be prevented from becoming serious, receive the early attention of physicians, and many acute illnesses are thus prevented.

The Southern Pacific Company is also accomplishing a great deal in California along similar lines of preventive medicine. Hospital service is given to employees, who pay a small monthly fee. Nurses from the Southern Pacific Hospital in San Francisco are transferred to various cities in the State, and employees of the company are brought into contact with nurses and doctors who are preaching the tenets of preventive medicine at all times. Some of the lumber and cement manufacturers are also providing this same sort of service for their employees, by which, through the payment of a small annual fee, the prevention of many cases of serious, and perhaps fatal sickness, is accomplished. Other concerns are requiring the medical examination of all employees, which is conditional upon their taking employment. This system, no doubt, weeds out many persons who might be a menace to the health of fellow employees, and prevents the occurrence of many cases of communicable disease.

STUDIES OF DIETARIES IN STATE INSTITUTIONS.

Professor M. E. Jaffa, Consulting Nutrition Expert of the California State Board of Health, has, for some time, been engaged in making studies of the dietaries used in various state institutions. Reports upon the dietaries established in the Stockton State Hospital, Mendocino State Hospital, California State Prison at San Quentin, the Sonoma State Home, the California School for the Deaf and Blind, the Whittier State School, and the California School for Girls have been filed with the Board of Control and the California State Board of Health.

In general, the amount and quality of food served in all such institutions has been found to be very satisfactory.

Professor Jaffa maintains that there are three essentials in the dietary of state institutions; first, there must be a supply of first quality food material; second, it must be properly prepared; and, third, it must be properly served. High grade materials, not properly cooked and not attractively served, are wasted.

Professor Jaffa has also paid special attention to the practice of economy in the management of kitchens of various state institutions. He has sought to avoid the duplication of foods supplying the same elements, as for instance, the serving of both potatoes and rice at the same meal, each of these foods being especially rich in carbohydrates.

Professor Jaffa advocates care in the serving of food, advocating cutting bread in thin slices rather than thick, in order that the patients in state hospitals may be attracted to the food that is well served.

MALARIA AND MOSQUITO SURVEY.

Professor W. B. Herms, of the University of California, Consulting Parasitologist of the State Board of Health, assisted by S. B. Freeborn, Instructor in Entomology in the University of California, will make a survey of malaria and mosquitoes during the three months beginning May 10th. This survey will be for the purpose of locating and determining all species of mosquitoes in California, to determine their numbers and habits, with particular attention to the anopheles. It is hoped that the location of all malaria-infected areas may be definitely learned. The survey will enable health officers and any other interested persons to learn of mosquito breeding places that may exist in the vicinity of their communities, and they may learn the best methods of control. Public meetings will be held and literature pertaining to the eradication of mosquitoes and flies will be distributed. Health officers, improvement clubs and civic bodies should write to the State Board of Health relative to this survey. During the ninety days, approximately the following route will be taken: Easterly from Berkeley to Suisun-Fairfield; northeast into the Vaca Valley and return to Elmira or Davis; northeast to Woodland; north to the Oregon boundary line, through Yolo, Colusa, Glenn, Tehama, Shasta and Siskiyou; east through Siskiyou and Modoc counties; southwest through Lassen and Plumas; south to Sacramento; west to Berkeley; north through Marin, Sonoma, Mendocino, Humboldt and Del Norte counties; south through Trinity, Mendocino, Lake and Napa counties; returning to Berkeley; thence easterly directly to Placer County, Nevada and Sierra counties; thence southerly into El Dorado, Amador, Calaveras, Tuolumne and Mariposa.

NINETEEN DIPHTHERIA CARRIERS IN A COLLEGE FRATERNITY.

By JOHN NIVISON FORCE, M.D., Gr.P.H., Assistant Professor of Epidemiology, University of California, and FRANK L. KELLY, M.D., Gr.P.H., Bacteriologist, Bureau of Communicable Diseases, California State Board of Health, Berkeley.

On October 12, 1915, a student reported to the University Infirmary with a slight sore throat. Examination showed a few white patches on the left tonsil and a throat swab was taken and sent for diagnosis to the State Hygienic Laboratory. Two days later the patches had extended to form a dirty white membrane and the laboratory reported a culture from the swab positive for diphtheria.

Since the patient was a member of a college fraternity and lived at the fraternity house, the manager of the fraternity was notified. Three members of the chapter at once reported to the Infirmary stating that they had been directly exposed to the original case. Throat swabs from all three were negative for diphtheria. Four days later a second group of five reported with a request for a throat examination. Of this second group one showed a positive throat culture and one a positive nose culture.

On receiving the report of the positive nose culture, swabs were taken from all the members of the fraternity group as well as three Chinese house boys. Of this group of nineteen persons, one of the Chinese was positive both in throat and nose, one member of the fraternity had a throat positive and a nose negative, while all the others were nose positive and throat negative. These nineteen persons were therefore carriers according to the definition given in the Diphtheria Regulations of the State Board of Health.

The question at once arose as to whether these persons were immune carriers or whether some of them might later show symptoms of the disease. In other words, might not some of the swabs have been taken during the incubation period of diphtheria and should not the susceptibles be detected and given antitoxin?

In order to differentiate this group on the basis of immunity to diphtheria the Schick test was employed. Through the kindness of Dr. Foster of the Cutter Laboratory, a fresh dilution of diphtheria toxin representing one-fiftieth M.L.D. to O. 1 c.c. was furnished us for the test. Each person in the group was given O. 1 c.c. intradermally using a short 26 gauge needle. The injection was made on the flexor surface of the forearm. Three members of the department staff served as controls.

Observations were made at the end of 24 and 48 hours and a final observation in certain cases at the end of a week. In several cases areolae with or without induration were present at the first observation, but in every one of the carrier group this pseudo-reaction had markedly diminished at the end of 48 hours. On the other hand the three controls progressed to typical positive reactions of varying degrees ending in each instance with slight desquamation over the inoculation site at the end of a few days.

Since all of this carrier group were Schick negative and therefore diphtheria immune, no antitoxin was given. In accordance with the

provisions of Note 2, Rule 11 of the Diphtheria Regulations of the State Board of Health these men were allowed to attend classes, while taking precautions according to instructions, but directed to avoid all public gatherings and social visits.

Swabs taken at the end of a week were negative in nine cases and the remaining swabs taken at the end of two weeks were negative. The original case was negative at the end of three weeks from the date of entry into the Infirmary.

This experience shows:

(1) That it is important to take nose swabs in all cases where throat swabs are warranted. Evidently these carriers would have been overlooked on a basis of throat swabs only.

(2) That the Schick test is valuable as an indicator of immunity, and that by its application we can ascertain which of the exposed persons do not need protective doses of antitoxin.

The California State Board of Health has the following publications for free distribution to citizens who may desire same:

Rules and Regulations for the Prevention and Control of
TYPHOID FEVER,
MALARIA,
DIPHTHERIA,
RABIES,
TUBERCULOSIS.

Special Regulations Pertaining to the Eradication of
FLIES,
MOSQUITOES.

SEWAGE DISPOSAL FOR ISOLATED RESIDENCES.
GENERAL HEALTH LAWS.
BIRTH REGISTRATION LAWS.

REPORT OF PROCEEDINGS OF SIXTH ANNUAL CON-
FERENCE OF STATE, COUNTY AND MUNICIPAL
HEALTH OFFICERS

Containing articles on Smallpox, Measles, Scarlet Fever,
Tuberculosis, Rabies, Plague, Venereal Diseases, Foods and
Milk Supply, Water Supplies, Municipal Waste Disposal,
Health Legislation, School Inspection, and many others.

REPORT OF THE APRIL MEETING OF THE STATE BOARD OF HEALTH.

The regular monthly meeting of the State Board of Health was held April 1st, in Sacramento. There were present Dr. George E. Ebright, President; Dr. F. F. Gundrum, Vice President; Dr. Edward F. Glaser, Dr. Robert A. Peers, Dr. Adelaide Brown, and Dr. Wilbur A. Sawyer, Secretary.

The State Board of Health decided to continue to furnish lectures on public health and preventive medicine in accordance with the request of the University of California Medical School.

The Secretary was appointed delegate of the State Board of Health to the Fourteenth Annual Conference of State and Territorial Health Authorities with the United States Public Health Service to be held in Washington, May 13 and 15, 1916.

The Board decided to call a conference of the various departments of the state government and other persons interested in the enforcement of the new milk law which goes into effect October first. The President decided to call the conference for Thursday, April 27th, in San Francisco.

The following resolution was passed putting on official record various previous actions of the secretaries of the State Board of Health relative to the reporting of communicable disease by health officers. The resolution did not in any way change the existing regulations:

“Resolved, That every local health officer shall report each week to the State Board of Health, on the blanks furnished by the Board, the presence of communicable diseases on the published list of diseases whose report is required by law, together with such data as are indicated by the report blanks furnished; and where the health officer has no knowledge of the presence of such diseases he shall report their absence in the same manner.”

A report was received relative to the delinquency of certain health officers in the matter of furnishing the required weekly report of communicable disease. In connection with this matter the following resolution was passed:

“Whereas, seven out of the two hundred and eighty-five health officers in California have failed to furnish reports of communicable diseases to the State Board of Health, as is required by law, during the first ten weeks of 1916, in spite of repeated communications calling their attention to the law; and,

Whereas, it is essential to successful public health administration in California that prompt reports of communicable diseases be received by the State Board of Health at weekly intervals from all health officers in the State; therefore be it

Resolved, That the Secretary be instructed to take further steps to bring about the reporting of diseases by delinquent health officers; that he notify them of the requirements of the law, and make recommendations to the Board at its next regular meeting

regarding any need for legal action to compel the performance of the duties of their office; be it further

Resolved, That the names of any remaining delinquent health officers be published in connection with the minutes of the next meeting."

Mr. Stanley B. Freeborn, Instructor in Entomology at the University of California, was appointed an Inspector of the State Board of Health, without salary from the Board, for services in connection with the malaria and mosquito survey, to hold office from May 1 to September 1, 1916. Mr. Freeborn will co-operate with Professor W. B. Herms in the proposed joint survey by the State Board of Health and the University of California.

A motion was carried to the effect that the Secretary should be instructed to inform the city of Alameda that inasmuch as the population of the city has exceeded 25,000, that the State Board of Health will discontinue the routine service of the State Hygienic Laboratory on January 1, 1917; and that the city of Alameda be urged to provide for a city bacteriological laboratory before that time.

A report was received from Dr. J. C. Geiger, Assistant Director of the State Hygienic Laboratory, that opthalmia neonatorum outfits, together with literature regarding legislation on the prevention of this disease, have been distributed to all physicians of California, and that an additional stock has been furnished to the larger health departments and to the 200 depositaries of the state hygienic laboratories.

A communication was presented from Dr. W. C. Hassler, health officer of San Francisco, relative to the possible discontinuance, by the United States Public Health Service, of plague eradivative measures in San Francisco. The following resolution was passed by the Board:

"Resolved, That the Secretary be instructed to communicate with the Surgeon General of the United States Public Health Service requesting the continuance of plague eradivative measures in San Francisco and other parts of California; and be it further

Resolved, That should the United States Public Health Service not see fit to continue its work in San Francisco, it would then devolve upon the local authorities to continue the activities initiated by the United States Public Health Service as a local sanitary measure."

The action of the Secretary in modifying the State quarantine for rabies in Lassen County was confirmed by a vote of the Board. The modification is as follows:

"That owners be allowed to take their dogs off their private premises, provided that such dogs are properly muzzled and held in restraint by leash. Also, that dogs be allowed to run at large during the day upon the private premises of the owner, provided they are at all times under the control of an adult and properly muzzled. At night that all dogs be held under proper control by means of leash or in enclosed cage or paddock."

By formal resolution the Board confirmed the action of the Secretary in endorsing the agreement between the State of California and the state of Nevada relative to the transfer of sheep dogs between Modoc and Lassen counties of California and Washoe County of Nevada.

Relative to the trial of a man charged with exhibiting a deadly weapon in a rude and threatening manner towards an inspector of the State Board of Health in connection with the rabies campaign in Modoc County, the following resolution was passed and ordered sent to District Attorney Robnett of Modoc County:

“Resolved, That the Secretary be instructed to communicate with the District Attorney commending his activity and expressing the interest of the Board in the case at issue.”

A temporary permit was granted to the city of Calistoga to continue to deposit and discharge the effluent from a septic tank on the four-acre tract east of Napa Creek, and also into the creek during the winter months.

A temporary permit was likewise granted to the city of Sonoma to continue to dispose of its sewage by treatment in a septic tank followed by disposal on a sewer farm.

A temporary permit was granted to the city of San Luis Obispo to continue the use of the public water supply pending the carrying out of the recommendations for increased safety contained in the report of Mr. C. G. Gillespie, Director of the Bureau of Sanitary Engineering.

On the basis of a report and the recommendations of the Director of the Bureau of Tuberculosis, the tuberculosis ward of the Fresno County Hospital was approved as eligible for the tuberculosis subsidy.

Regulations for the prevention and control of tuberculosis were read, amended, and adopted.

The following hospitals having been inspected and found to meet the requirements of the Board were accredited for one year from date, April 1, 1916: Agnew Sanitarium, San Diego; Alameda County Hospital, San Leandro; East Bay Sanitarium, Oakland; Glendale Sanitarium, Glendale; Hahnemann Hospital, San Francisco; Loma Linda Sanitarium, Loma Linda; O'Connor Sanitarium, San Jose; Paradise Valley Sanitarium, National City; Pomona Valley Sanitarium, Pomona.

Certificates as registered nurse were granted to 105 applicants.

A plan for a standard curriculum for nurses training schools was presented and a committee, consisting of Dr. F. F. Gundrum, Dr. Edward F. Glaser, and Dr. Adelaide Brown, was appointed to co-operate with the Bureau of Registration of Nurses in considering the manuscript and making any needed amendments.

A resolution was passed approving, in accordance with the recommendations of the Director of the Bureau of Registration of Nurses, the requirements of the Board for accredited training schools for nurses, after minor amendments made at the meeting.

The Board passed a resolution calling the attention of the State Board of Control to the need of careful physical examination of the orphan wards of the State, and expressing the opinion of the Board that special provision should be provided for children suffering from tuberculosis and other diseases.

Seventy-one cases of alleged violations of the Foods and Drugs Act had been set for hearing on this date. Many of the alleged violators were present or were represented by attorneys. After the hearings the cases were judged on their merits and the most of them were referred to the local district attorneys for prosecution.

REPORT OF THE BUREAU OF ADMINISTRATION FOR MARCH, 1916.

W. A. SAWYER, M.D., Director.

Public Health Activities of Members of the Board.

Dr. Edward F. Glaser, member of the Board, delivered a lecture upon "Prevention of Blindness During Infancy" at the Civic Auditorium, San Francisco, where the Babies Welfare Exhibition was held.

Dr. Adelaide Brown, member of the Board, during Baby-Week, March 6th to 11th, delivered an address at the St. Lukes Training School, her subject being "Social Hygiene." During the same week, Doctor Brown delivered an address on the new California milk law.

Dr. Robert A. Peers, member of the Board, inspected the tuberculosis wards of the city and county hospital of San Francisco. On March 25th, Doctor Peers spoke before the Women's Improvement Club of Auburn upon "The Control of Infectious Diseases in Babies and Young Children." On the evening of March 25th, Doctor Peers presided at a joint meeting of the Placer County Medical Society and Health Officers, held in Auburn.

SANITARY INSPECTIONS.

EDWARD T. ROSS, State Sanitary Inspector.

Practically the entire month was spent in Modoc and Lassen counties in connection with the campaign which is being waged against rabies.

As a result of the extensive campaign which has been carried on for the past three months coyotes are becoming very scarce; in fact, in many sections district hunters and others state that they have practically disappeared. In the Surprise Valley section in Modoc County, where at the beginning of the campaign coyotes were very numerous and many cases of rabies were found, the coyote has almost entirely disappeared and very few cases of rabies are being reported.

During the month several hundred premises were inspected for the purpose of ascertaining if the quarantine regulations were being complied with. Very few violations were found. Twenty-three thousand seven hundred and ninety-eight poison baits and 1,217 traps were placed, resulting in the destruction of 806 coyotes, 90 bobcats and 93 polecats. These figures show the number actually found, but do not by any means represent the number of animals destroyed.

In addition to the animals poisoned or trapped, 1,120 rabbits and 356 squirrels were shot and used for bait.

The following is a summary of operations for the month:

Public meetings attended for the purpose of explaining quarantine regulations, etc.	5
Premises inspected for loose and unlicensed dogs.....	447
Dogs found without license.....	189
Dogs found provided with proper license.....	142
Dogs destroyed	109
Dog license application blanks issued.....	75
Cats destroyed (domestic)	95
Coyotes destroyed by hunters and others using Government and State poison	806
Coyotes brought in by citizens for bounty.....	176
Bobcats destroyed	90
Polecats destroyed	93

Rabbits shot for bait.....	1,120
Squirrels shot for bait.....	356
Traps placed by district hunters.....	1,217
Magpies shot for bait.....	210
Poison issued (ounces).....	240
Poison issued (filled capsules).....	4,460
Empty capsules issued.....	18,660
Poison baits placed by district hunters.....	23,798
Notices posted (modification).....	763
Notices posted (warning).....	33
Notices posted (quarantine).....	32
Circular letters, literature, etc., sent out.....	393

The following cases of suspected rabies were reported:

Cattle.....	89
Hogs.....	6
Sheep.....	6
Dogs.....	9
Coyotes.....	22
Horses.....	10

The following animals' brains were shipped to the Laboratory:

Cattle.....	46
Hogs.....	4
Sheep.....	4
Dogs.....	9
Coyotes.....	12
Horses.....	3
Bobcats.....	1

The following animals were found dead. Cause of death, doubtful:

Cattle.....	226
Sheep.....	525
Hogs.....	37
Horses.....	81

Reports received from the Laboratory at Berkeley, Cal., show that the following cases proved positive for rabies:

Cattle.....	25
Sheep.....	3
Coyotes.....	14
Horses.....	1
Dogs.....	3
Cats (domestic).....	1
Bobcats.....	1

MORBIDITY REPORTS.

GUY P. JONES, Morbidity Clerk.

There were but half as many cases of smallpox reported during March as during February, the total number reported being thirty-four. Of these, eighteen had never been vaccinated successfully, eight were last vaccinated more than seven years preceding attack, two had been vaccinated within seven years, and vaccination histories were unobtainable for six cases. There were sixty-eight cases of typhoid fever reported during March, which is an increase of twenty over February, when forty-eight cases were reported. There was but one case of poliomyelitis reported during March, and but six cases of epidemic cerebro-spinal meningitis. There was an increase in the number of cases of tuberculosis showing that reporting by physicians is becoming more nearly complete. There were eight hundred and twenty-eight cases reported during March. Three cases of ophthalmia neonatorum and seven cases of trachoma were reported. Six cases of trichinosis and one case of actinomycosis were reported.

REPORT OF THE BUREAU OF COMMUNICABLE DISEASES FOR MARCH, 1916.

JAMES G. CUMMING, M.D., Dr.P.H., Director.

So-called "Winter Cholera" at Colfax.

Two epidemics of so-called "Winter Cholera" have had the attention of this Bureau during March. One of these was at Napa, the other at Colfax and adjoining communities.

The causative organism of the Colfax epidemic was not determined, although the conclusion was reached that it was water-borne. The water supply of this and the adjoining town originates in the mountains and flows to the consumer in an open ditch of 50 to 100 miles. The laboratory examination of this ditch water shows that at times it is subject to high pollution. The temporary pollution makes plain the necessity of installing a purification plant which would provide for constant treatment of the water supply. This water-borne epidemic, though of short duration and apparently not of a serious nature, is significant in that such an epidemic of diarrhea, explosive in character, is often the forerunner of a typhoid epidemic; furthermore, here is shown the possibility of actual typhoid pollution. In fact, there is a possibility that some of these cases were mild typhoid. This is indicated by the fact that, although those who were attacked have not yet been tested by the Widal reaction, the typhoid organism was isolated from the effluent of the municipal septic tank. Further bacterial tests of the effluent of this septic tank and the results of the Widal tests will be reported later by this Bureau.

Bacillary Dysentery at Napa.

The so-called "Winter Cholera" at Napa is of particular interest in that it was caused by the Hiss-Russell type "Y" variety of bacillary dysentery. This organism has not heretofore been identified as the causative factor in the production of dysentery in this State. Napa has a population of about 7,500. A few days after the opening of most of the fire hydrants for the purpose of flushing the sewers, there occurred about 400 cases of diarrhea. One week after the onset of the epidemic the city water supply was examined bacteriologically and found to be safe. It must be remembered that this examination was not made at the time of the outbreak.

The explosive character of the outbreak, the occurrence of the disease in several nursing infants, the infection of a visitor from a distant city who ate no food and drank only water, and the ruling out of a common food supply, points very definitely to the water supply as the common source of infection. At the present time, a study, which promises to be of interest, is being made to determine the source of the temporary pollution of the water supply.

The symptoms were general malaise, back and headache, abdominal pains, severe mucous dysentery, the discharges being bloody in many cases. The onset was sudden, accompanied by a temperature of 101 to 102, which was of not more than twenty-four hours' duration. There was gradual recovery from the dysentery in a week or ten days. The

disease was most severe in the aged and young. There were four deaths, and one case in a boy, aged 10, was complicated by an exploded appendix.

The plan of procedure in determining the causative organism in this epidemic was as follows: *first*, to isolate in pure culture suspicious typhoid and dysentery organisms from the stools of several patients during the early stages of the disease. *Second*, to identify these positively as belonging to the group of intestinal disease-producing organisms. This is to be done both by cultural and specific agglutinating tests. *Third*, to test these isolated organisms against the blood serum from a number of infected patients. *Fourth*, to produce the disease in animals and determine the toxin—antitoxin reactions.

From the Napa epidemic there was isolated from three stools out of five a pure culture of the Hiss-Russell, type "Y" variety, of bacillary dysentery. The organism was identified as a type "Y" organism both culturally and by specific agglutination. It then remained to test this organism by the agglutinating method against the serum of a number of patients to identify it positively as the actual causative factor of the epidemic. To fulfill this requirement, 3 c.c. of blood were drawn from each of 20 cases. The blood was permitted to clot and the serum was drawn off. To control these agglutinating tests, serum from five normal individuals was obtained. The suspension of the organism used in the agglutinating test was made by taking up twenty-four hours old agar slants in 100 c.c. salt solution.

It was found that the normal sera used as controls did not agglutinate the organism in a dilution of more than one part serum to twenty parts NaCl solution. If the patient's serum agglutinates the bacterial suspension in higher dilutions than does the normal serum there is evidence that the patient's serum contains specific agglutins for the organism.

Of the 20 specimens of patients' sera, 17 gave positive microscopic agglutinating reactions in the following dilutions: 3, in a dilution of 1-80; 4, 1-160; 2, 1-320; 3, 1-640; 2, 1-1,280; 1, 1-2,560; and 2, 1-5,000. The large number of positive agglutinating reactions here obtained with the patient's serum confirmed the evidence against the type "Y" variety of bacillary dysentery as the predominating causative organisms of this epidemic. The absence of a positive agglutinating reaction with three of the patients' sera might well be expected, as in all water-borne epidemics a single organism is not necessarily the only cause of gastrointestinal disturbances. Further laboratory work with the idea of demonstrating the effect of this organism on animals will be carried out with special reference to toxin-antitoxin reactions.

To complete the investigation of this epidemic (aside from the source of contamination of the water-supply) it will be necessary to examine the stools of all cases after recovery and establish the identity of those who became carriers of the organism. Those who became carriers deserve as rigid supervision of their occupations as does the typhoid carrier. Especially is this so since a larger percentage of carriers result from a dysentery epidemic than from an epidemic of typhoid fever.

Prophylaxis in Ophthalmia Neonatorum.

In complying with the law entitled "An act to prevent blindness from ophthalmia neonatorum," passed by the State Legislature, the California State Board of Health made provision for the gratuitous distribution of a specially prepared outfit containing 1 per cent silver nitrate for the prevention of ophthalmia neonatorum. About 9,000 of these outfits, together with directions for their use, have been distributed among city and county health officers, midwives, registered physicians, hospitals and depositaries of this Bureau. These outfits may now be obtained without cost from any health officer, from the main laboratory of this Bureau or at any one of the 200 depositaries in the various cities and towns throughout the State. Accompanying each outfit is a copy of the law relative to the powers and duties of the State Board of Health and the duties imposed upon physicians or any other person lawfully engaged in the practice of obstetrics or assisting at childbirth. This distribution of information relative to this law has already had effect in stimulating the reporting of blindness. Such reports are essential, not only to make more accurate the vital statistics of this State, but also because any measure for the prevention of blindness tends to decrease the future tax burden of the community; in addition, it is hoped that the free distribution of these outfits with their accompanying information will do much to stimulate the practice of prophylaxis in ophthalmia neonatorum.

Division of Biological Examinations.

Summary of Examinations made in the California State Hygienic Laboratory during the month of March, 1916.

Condition suspected	Positive	Negative	Inconclusive	Total
Main Laboratory at Berkeley:				
Anthrax -----		2		2
Diphtheria (diagnosis) -----	18	35	17	70
Diphtheria (release)* -----	74	45	2	121
Diphtheria (school investigations) -----	50	105	25	180
Gonococcus infection -----	17	3	3	23
Hookworm -----	135	215		350
Malaria -----		2	2	4
Rabies -----	49	47		96
Syphilis (Wassermann test) -----	10	174	6	190
Tuberculosis (sputum examinations) -----	8	13		21
Typhoid (Widal test) -----	4	15	7	26
Miscellaneous -----	3	3		6
				1,089
Northern Branch at Sacramento:				
Diphtheria (diagnosis) -----	4	14		18
Diphtheria (release) -----	2	9	1	12
Malaria -----	4	13		17
Tuberculosis (sputum examinations) -----	4	13		17
Typhoid (Widal test) -----	1	12	1	14
				78
San Joaquin Valley Branch at Fresno:				
Diphtheria (diagnosis) -----	5	32	9	46
Diphtheria (release) -----	7	18	6	31
Malaria -----		1		1
Tuberculosis (sputum examinations) -----	5	16		21
Typhoid (Widal test) -----		2		2
				101
Southern Branch at Los Angeles:				
Diphtheria (diagnosis) -----	20	99	1	120
Diphtheria (release) -----	12	15	1	28
Tuberculosis (sputum examinations) -----	5	9		14
Typhoid (Widal test) -----		10	3	13
				175
Total number of examinations -----				1,443

*Cultures taken from school children at San Anselmo (35), and from students at the Mt. Tamalpais Military Academy, San Rafael (145).

Division of Preventive Therapeutics.

Pasteur Treatment for the Prevention of Rabies by the State Hygienic Laboratory during the month of March, 1916.

	Treatment commenced	Treatment completed
Main Laboratory at Berkeley.....	10	8
Northern Branch at Sacramento.....	0	0
San Joaquin Valley Branch at Fresno.....	1	0
Southern Branch at Los Angeles.....	1	3
Laboratory of Sacramento Board of Health, by deputized bacteriologist	0	0
Laboratory of San Francisco Board of Health, by deputized bacteriologist	1	0
Laboratory of Los Angeles Board of Health, by deputized bacteriologist		1
Laboratory of San Diego City Board of Health, by deputized bacteriologist	0	0
Laboratory of Letterman General Hospital, Presidio, by deputized bacteriologist	0	0
Laboratory of United States Naval Hospital, Mare Island, by deputized bacteriologist.....	0	0
Totals	13	12

Vaccine for the Prevention of Typhoid Fever issued by the State Hygienic Laboratory during the month of March, 1916.

Number of physicians to whom vaccine was sent.....	29
Number of complete treatments sent.....	611
Number of ophthalmia neonatorum prophylactic outfits distributed during the month of March, 1916.....	5,194

Public Health Instruction.

Participation in Instruction in Public Health during March, 1916.

Main Laboratory at Berkeley:	
Bacteriological instruction outfits sent out.....	0
Bacteriological instruction outfits in use.....	21
Lectures or talks by the Director.....	4

Division of Epidemiological Investigations.

Epidemiological Investigations and other Special Investigations during March, 1916.

Main Laboratory at Berkeley:	
Special investigations by the Director.....	1
An investigation of dysentery at Colfax.....	
Special investigations by the Director and Assistant Director.....	1
An investigation of dysentery at Napa.....	
Special investigations by the Bacteriologist.....	1
An investigation of smallpox at Placerville.....	

REPORT OF THE BUREAU OF VITAL STATISTICS.

GEORGE D. LESLIE, Director.

Births, Deaths and Marriages for February.*

State Totals and Annual Rates.—The following table shows for California as a whole, the birth, death and marriage totals for the current and preceding months in comparison with those for the corresponding months of last year, as well as the annual rates per 1,000 population represented by the totals for the current and preceding months. The rates are based on an estimated midyear population of 2,946,347 for California in 1916, the estimate having been made by the Census Bureau method with slight modifications.

Birth, Death and Marriage Totals, with Annual Rates per 1,000 Population, for Current and Preceding Months, for California: February.

Month	Monthly total		Annual rate per 1,000 population 1916
	1916	1915	
February—			
Births -----	3,951	3,480	16.9
Deaths -----	3,179	3,011	13.6
Marriages -----	2,028	2,114	8.7
January—			
Births -----	4,158	3,973	16.7
Deaths -----	3,942	3,360	15.8
Marriages -----	2,225	2,381	8.9

The birth total for February was considerably greater in 1916 than in 1915, while the death total for the month was only slightly greater this year than the last and the marriage total was even somewhat less than in the previous year.

The birth registration exceeded the death total by 772, or 24.3 per cent in February.

Length of Residence.—As to deaths, it may be noted that for the 3,179 decedents in February the length of residence in California was as follows: Under 1 year, 119, or 3.7 per cent; 1 to 9 years, 585, or 18.4 per cent; 10 years and over, 1,442, or 45.4 per cent; life, 756, or 23.8 per cent; and unknown, 277, or 8.7 per cent.

County Marriage Totals.—The counties showing the highest marriage totals for the month were as follows: Los Angeles, 451; San Francisco, 426; Alameda, 176; Orange, 96; Fresno, 90; Sacramento, 84; San Diego, 78; Santa Clara, 69; San Bernardino, 58; San Joaquin, 47; Riverside, 36, and Marin, 33. The aggregate for San Francisco and other bay counties was 674 against 547 for Los Angeles and Orange counties together.

*NOTE.—The present report is for the month preceding, but one. This order must be followed hereafter, because of the publication of the Bulletin during the early part of the month, before the tabulation of records for the preceding month is completed.

County Birth and Death Totals.—Exclusive of stillbirths in both cases, the birth and death totals for the month were as follows for the leading counties, arranged in decreasing order of birth registration:

County	Births	Deaths	County	Births	Deaths
Los Angeles -----	902	859	San Joaquin -----	84	86
San Francisco -----	647	601	Orange -----	80	37
Alameda -----	386	286	Tulare -----	79	31
Sacramento -----	152	91	Sonoma -----	77	62
Fresno -----	141	75	Contra Costa -----	63	22
Santa Clara -----	128	114	Kern -----	59	43
San Bernardino -----	120	106	Riverside -----	53	48
San Diego -----	118	140	Humboldt -----	49	21

City Birth and Death Totals.—Birth and death totals, exclusive of stillbirths, are presented similarly for the principal California cities below:

City	Births	Deaths	City	Births	Deaths
San Francisco -----	647	601	San Bernardino -----	49	21
Los Angeles -----	590	565	Pasadena -----	46	52
Oakland -----	261	178	Stockton -----	45	51
Sacramento -----	118	79	Long Beach -----	41	31
San Diego -----	86	96	Alameda -----	34	18
Berkeley -----	53	40	Bakersfield -----	33	23
San Jose -----	52	35	Eureka -----	23	20
Fresno -----	50	22	Richmond -----	23	11

Geographic Divisions (Infant Mortality).—The following table presents data for geographic divisions to show in comparison with total births and deaths the number of deaths under 1 year as some indication of conditions with reference to infant mortality in different portions of the State.

Total Births and Deaths, with Deaths Under One Year, for Geographic Divisions: February.

Geographic division	Total live births	Total deaths, all ages	Deaths under 1 year
The State -----	3,951	3,179	254
Northern California—			
Coast counties -----	183	159	16
Interior counties -----	244	155	10
Central California—			
San Francisco -----	647	601	28
Alameda -----	386	286	21
Other bay counties -----	113	67	8
Coast counties -----	232	197	24
Interior counties -----	739	470	18
Southern California—			
Los Angeles city -----	590	565	47
Rest of Los Angeles county -----	312	294	17
Other counties -----	505	385	35

Cause of Death.—The following table shows the classification of deaths in California for the current month, in comparison with the preceding month:

Deaths from Certain Principal Causes, with Proportion per 1,000 Total Deaths, for Current and Preceding Month, for California: February.

Cause of death	Deaths: February	Proportion per 1,000	
		February	January
All causes -----	3,179	1,000.0	1,000.0
Typhoid fever -----	13	4.1	2.8
Malarial fever -----	6	1.9	-----
Smallpox -----	-----	-----	0.3
Measles -----	2	0.6	1.0
Scarlet fever -----	2	0.6	0.5
Whooping-cough -----	9	2.8	1.0
Diphtheria and croup -----	23	7.2	6.1
Influenza -----	38	12.0	14.0
Other epidemic diseases -----	6	1.9	3.0
Tuberculosis of lungs -----	435	136.8	124.3
Tuberculosis of other organs -----	54	17.0	12.9
Cancer -----	215	67.6	60.6
Other general diseases -----	115	36.2	43.9
Meningitis -----	26	8.2	5.3
Other diseases of nervous system -----	231	72.7	61.4
Diseases of circulatory system -----	623	196.0	219.9
Pneumonia and broncho-pneumonia -----	319	100.3	129.6
Other diseases of respiratory system -----	53	16.7	27.9
Diarrhea and enteritis, under 2 years -----	37	11.6	12.2
Diarrhea and enteritis, 2 years and over -----	25	7.9	10.4
Other diseases of digestive system -----	145	45.6	42.4
Bright's disease and nephritis -----	244	76.8	70.5
Childbirth -----	23	7.2	7.9
Diseases of early infancy -----	108	34.0	28.7
Suicide -----	76	23.9	19.3
Other violence -----	226	71.1	59.6
All other causes -----	125	39.3	34.5

In February there were 623 deaths, or 19.6 per cent of all, from diseases of the circulatory system; 489, or 15.4 per cent, from various forms of tuberculosis; and 372, or 11.7 per cent, from pneumonia and other diseases of the respiratory system. Heart disease thus surpassed tuberculosis considerably in the death total for February.

Other notable causes of death in February were: Violence, 302; diseases of the nervous system, 257; Bright's disease and nephritis, 244; diseases of digestive system, 207; cancer, 215; and epidemic diseases, 99.

The deaths from epidemic diseases were as follows: Influenza, 38; diphtheria and croup, 23; typhoid fever, 13; whooping-cough, 9; malarial fever, 6; and all other epidemic diseases, 10.

The deaths from the three leading epidemic diseases reported for the month were distributed by counties as follows:

Influenza		Diphtheria and croup		Typhoid fever	
Alameda	6	Alameda	5	Los Angeles	3
Butte	1	Fresno	1	Riverside	2
Fresno	3	Los Angeles	2	Sacramento	1
Humboldt	1	Monterey	1	San Bernardino	1
Los Angeles	7	Placer	1	San Diego	1
Napa	1	Riverside	2	San Francisco	2
Orange	1	San Francisco	8	Santa Barbara	1
Riverside	2	San Mateo	1	Siskiyou	1
Sacramento	1	Siskiyou	1	Tehama	1
San Bernardino	1	Stanislaus	1		
San Diego	1			Total	13
San Francisco	7	Total	23		
Santa Barbara	1				
Santa Clara	1				
Sonoma	1				
Stanislaus	1				
Sutter	1				
Tuolumne	1				
Total	38				

Sex, Race and Nativity.—The proportion of the sexes among the 3,179 decedents in February was: Male, 1,949, or 61.3 per cent, and female, 1,230, or 38.7 per cent.

The race distribution of decedents was: White, 3,021, or 95.0 per cent of all; negroes, 53; Chinese, 52; Japanese, 40, and Indian, 13.

The 3,021 white decedents were classified by nativity as follows: California, 711, or 23.5 per cent; other states, 1,298, or 43.0 per cent; foreign countries, 942, or 31.2 per cent; and unknown, 70, or 2.3 per cent.

Age Periods.—The 3,179 deaths reported for the month were distributed by age periods as follows: Under 1 year, 254, or 8.0 per cent; 1 to 4 years, 105, or 3.3 per cent; 5 to 9 years, 55, or 1.7 per cent; 10 to 19 years, 80 or 2.5 per cent; 20 to 29 years, 231, or 7.3 per cent; 30 to 39 years, 338, or 10.6 per cent; 40 to 49 years, 380, or 12.0 per cent; 50 to 59 years 411, or 12.9 per cent; 60 to 69 years, 486, or 15.3 per cent; and 70 years and over, 839, or 20.4 per cent.

The 254 deaths under 1 year, in comparison with the 3,951 live births reported for the month, represent an infant mortality ratio of 64 per 1,000 births.

REPORT OF THE BUREAU OF TUBERCULOSIS FOR MARCH, 1916.

By E. L. M. TATE, Director.

Marin County is to build a new pavilion for its tuberculosis patients. Santa Clara County is soon to make changes in its tuberculosis hospital and enlarge its bed capacity. The new Alameda Sanatorium plans will include a children's cottage with a nursery and open air school; a nurses' cottage with sleeping porches; a forty-bed infirmary with sufficient private rooms, treatment and examination rooms, with a service building and the necessary sleeping accommodations for men and women. The buildings will be simple in construction.

An extremely interesting conference was held with the Probation Department, the Associated Charities of San Francisco, and the Salvation Army, with reference to arranging a small preventorium for the children at the Industrial Home at Lytton Springs. The plan offers an opportunity to do some much needed work along preventive lines. Children placed in the preventorium will be given special care; in fact, placed under regular sanatorium regime. At the last meeting of the State Board of Health a resolution was passed asking the Board of Control to place special emphasis on the care of the wards of the State, especially those children coming from families having a history of tuberculosis. Recent investigations have shown that children who had open cases of tuberculosis associated with other children. The Bureau is not blind to the fact that unless we begin on the group of children who are border-line cases, the State must carry an additional burden later.

The work of the clinics continues to grow, but again these sadly needed camps suggest themselves. Do taxpayers realize that in the larger cities of this State a patient must be almost past recovery before he may receive hospital care?

The hospital at Fresno has been subsidized and the new clinic will soon be open. Marin County's nurse is working throughout the county and the Red Cross Chapter there is already planning constructive work.

From Lassen and Shasta counties we have blue prints for tuberculosis wards or pavilions and with the opening of the Government Sanatorium for Indians in the Hoopa Valley, the northern part of the State will be in a fair condition to handle part of its problem.

The San Joaquin County Hospital was visited early in the month. If you really want to know about the subsidy, ask the patients there and learn what they say.

The supervisors of San Francisco have made an emergency appropriation to enlarge the women's building and to add a second story to one of the men's cottages.

The tuberculosis death total in this State for the past ten years has increased over 1,000. In 1906, 4,437 people died from the White Plague and in 1915, 5,551 paid the toll. Concerted effort in other states and other countries has reduced the death rate and it can, it *must*, be done in California.

REPORT OF THE BUREAU OF SANITARY ENGINEERING FOR MARCH, 1916.

By C. G. GILLESPIE, C.E., Director.

Decision has recently been rendered in the suit instituted against the City of Auburn for damages as the result of nuisance caused by the municipal septic tank and the case dismissed in favor of the city. It is worthy of note that individuals aggrieved by sewage disposal offense are resorting to the courts for redress and damages in such cases with rapidly increasing frequency. It is also worthy of note that many of these suits have been decided against the cities concerned, entailing great expense with absolutely nothing to show for the enforced outlay. That the Auburn suit was won by the city seems to be due solely to the fact that the preponderating offense occurred within the mill of the plaintiff, due to the use of the sewage in carrying on the work there, the plaintiff knowing the nature of the sewage at the time the plant was constructed. A most important consideration is involved, however, since the right to the full enjoyment of one's property providing that it does not interfere with the rights of others is left as undeniable. It appears to be the sense of many recent court decisions that sewage disposal, being a necessary element in our civilization, can not be denied. At the same time, sewage treatment and disposal is expected to be carried on in such a way as to not infringe in the least on the prior rights of others and in such a way as to reduce to the minimum the effect on development of property in the vicinity. Courts do not excuse lack of foresight in choosing ill-advised sites for the purpose nor negligence in operation of plants as built. It is important, therefore, that cities shaping their sewage disposal should look well into the reception which their plants will receive from the present and future inhabitants in a wide surrounding zone.

It has been the experience of this Bureau that too many cities are being mislead into the belief that sewage disposal is or can be handled absolutely inoffensively. Even the best sewage disposal plants have their "off days" which must be provided for. The many varieties of tanks for sewage purposes must be selected and located with extreme care with reference to offense about the plant itself and at the end of the outfall. Septic tanks in general give extreme offense at the end of the outfall and about the plant itself when sludge is being cleaned out. Imhoff tanks normally produce a fresh, non-odorous effluent but one which, like the septic tank effluent, may produce offense if not quickly disposed of. Imhoff tanks with which we are familiar in this State have received little or no operating attention and are needlessly subject to odors about the plant. Cities should avail themselves of the advice of this Bureau as the first move in seeking improvements in sewage disposal.

The Bureau notes several inquiries and the placing of several orders for chlorination plants throughout the State during the past month. Benicia, Auburn, San Luis Obispo, Santa Barbara, and El Centro are in a fair way soon to be able to partake of their water supplies with a feeling of safety in the taking, even though the appearance of some of these supplies may not be most attractive.

The long delayed bond election for sewage disposal in Los Angeles has been set for some time in June. The outcome will be watched with interest by a large portion of the State's population.

Sewage Disposal.**APPLICATIONS FOR PERMITS FILED.**

Santa Rosa. To continue to deposit septic sewage into Santa Rosa Creek.

PERMITS GRANTED.

Compton. To discharge contact bed effluent into Compton Creek.

Colma, J. H. Dennis. To discharge Imhoff tank effluent into subtile in the ravine at Ninetieth street.

PLANS FILED—NONE.**Investigations or Inspections.**

Folsom. Investigation of sanitary conditions and feasibility of sewerage and disposing of sewage of the sanitary district was made, in an effort to arouse the people to the necessity for improvement.

Broderick. The Bureau was called in to determine whether the poor drainage of the town came properly within its province. It was not apparent that relief from the drainage complained of would materially improve the health conditions of the town, which are in many respects at fault. Improved sewage disposal and water supply are urgently needed.

Isleton. Inspection of sanitary conditions was made in an effort to induce the citizens to put in a small sewerage system with attached septic tank.

Calistoga. This city only recently completed a sewerage system with outlet to septic tanks, operation of which is not yet well in hand. There has been purchased a small area of land at the outlet on which it has been hoped to dispose of the tank effluent by irrigation, but the soil is such that it is doubtful if this can be accomplished successfully and probably a portion of the water will be used for irrigation by neighboring farmers. At the present time the effluent is entering Russian River. Suggestions for operation have been made by this Bureau.

Redding. The city has a 40-year contract, dating from 1890, with the owner of a farm near town to dispose of its sewage without nuisance by irrigation on his land. At the time of inspection the farm was apparently being operated in accordance with the terms of the contract. During the rainy seasons it is understood that some sewage overflows into the Sacramento River near by.

St. Helena. Sewage is treated in a septic tank and then disposed of on land bordering Russian River. The city owns about five acres used for this purpose but the major part of the water is used by a neighboring farmer for irrigation. Apparently satisfactory disposal of the sewage is being accomplished except during winter months when a portion of it is said to reach the river.

Willows. The city owns 160 acres of land purchased several years ago for sewage disposal purposes, but with the exception of digging a few ditches at one side, the land has not been developed. The sewage meantime has flowed into a marsh with considerable nuisance developing at times. Because of recent and contemplated developments in the vicinity of this marsh, it is expected that more complete treatment of the sewage and further development of the farm will soon be necessary. Heretofore the country in this vicinity has been very sparsely settled but only recently the growing of rice has been found to be very remunerative. Water for this crop has a considerable value and it has been suggested that the Willows sewage be purified to a high degree to make it suitable for irrigation of rice.

Water Supplies.

APPLICATIONS FOR PERMITS FILED.

Redding (Northern California Power Co.). To furnish water supply from the Sacramento River.

Santa Rosa. To furnish water from city wells.

Ukiah (Ukiah Water and Improvement Co.) To furnish water from Gibson Creek, Orr Creek and two wells near the Russian River.

PERMITS GRANTED—NONE.

PLANS FILED—NONE.

Investigations or Inspections.

Grass Valley. The city desired the company furnishing water to pipe a portion of its ditch conduit, believing that practically all turbidity from washoff of cultivated lands would be eliminated. This Bureau is convinced that such a solution would accomplish small results at great cost and has recommended a modern rapid sand filter plant, preferably installed by the city, as the most logical permanent solution.

Calistoga. Supply is obtained from two spring-fed mountain streams and, in case of emergency, from a drilled well. One of the stream supplies is subject to objectionable pollution, means for correcting which have been recommended.

Kennett. Supply is derived from reservoir on Big Backbone Creek and conveyed to town in an open ditch. At times following rains when the water is turbid it is filtered through a pressure filter. Installation of liquid chlorine apparatus is being considered.

Napa. The supply was examined in connection with the investigation of an outbreak of dysentery in the city. Water is obtained at two different stations from wells. The inspection and results of analyses indicated a supply of satisfactory sanitary quality.

Redding. This supply is derived from the upper Sacramento River and is subject to dangerous pollution from numerous sewer outlets and thousands of vacationists. The supply has been treated. A detailed investigation has been made of the supply, including sources of pollution, as a result of which chlorination and works for clarification have been strongly recommended.

San Diego. Following the failure of Lower Otay dam, San Diego's normal water supply was entirely cut off and emergency temporary supplies were derived from San Diego River and La Mesa reservoir owned by the Cuyamaca Water Company. For a short time the water as delivered into the mains was highly polluted, but more recently coagulation, sedimentation, and chlorination have been instituted. A reasonably satisfactory water, considering the difficulties under which the city has labored, is now being supplied. Restoration of the old supply is being hastened and should be accomplished at an early date.

St. Helena. Supply diverted from York Creek in the hills near the city. This stream is subject to dangerous pollution and chlorination of the supply has been strongly urged.

Laboratory Work.

Bacteriological examinations of water—188, of which 117 or 62 per cent showed contamination.

Bacteriological examinations of sewage—4.

Bacteriological examination of oysters—1.

Chemical examinations of water—166 (partial).

Chemical examinations of sewage—2 (partial).

REPORT OF THE BUREAU OF FOODS AND DRUGS FOR MARCH, 1916.

E. J. LEA, M.S., Director.

The food and drug laboratory received three hundred and thirty-four samples during the month of March. These samples were classified as follows:

Official.

Foods -----	143
Drugs -----	41

Unofficial.

Foods -----	43
Drugs -----	4
Miscellaneous -----	31

Cold storage.

Foods -----	72
-------------	----

Official Samples.

The official samples consisted largely of meats, condiments, liquors and confectionery.

Meats. Seventy-five samples of meats were collected by inspectors. These consisted of chopped meat, or so-called hamburger, and sausage. About one-third of these meat samples contained sodium sulphite as a preservative. The preserved samples were, in nearly all cases, collected from small lunch counters, sandwich wagons, etc. In each case the name of the butcher who sold the meat to the lunch counter or wagon was obtained, and the butchers were cited to appear before the State Board of Health, as well as the parties from whom the sample was procured.

Confectionery. Six confectionery samples were collected from manufacturers who were suspected of putting alcoholic liquor in cherry chocolates, "Victoria" chocolates, etc. Some of these samples had mere traces of alcohol. Some had none, and one sample had been filled with a syrup containing a high percentage of alcohol. Some of the "Victoria" chocolates contained rum flavor. The alcohol had largely evaporated, but the flavor of rum in these chocolates was very distinct.

Syrup. Many restaurants have on their bills of fare items similar to the following:

Waffles and maple syrup -----	10 cents
Hot cakes and maple syrup -----	10 cents

Samples of this class of syrup have been collected and analyzed. The results show that much of this syrup is made from brown sugar, water and a little Mapleine flavor, which contains no maple products whatever. Such syrup, therefore, is clearly adulterated and mislabeled. This department will prosecute all such cases which come to its attention.

Jelly. Several jars of jelly labeled "Strawberry Jelly," "Raspberry Jelly," etc., were suspected of being imitation products and were analyzed. These jellies were made largely from apple stock and contained artificial flavors which were composed of synthetic ethers. Artificial colors were present in some of them.

Liquors. Many complaints have reached this department concerning the quality of certain brands of gin, brandy, vermouth, cordials, etc. The investigation of this matter revealed the fact that it is a common practice to use the original contents of a good brand of liquor, and then refill the same bottle from a cheaper and inferior stock. This practice is sometimes repeated until the label becomes worn and dirty from excessive handling. In one instance, a proprietor stated that he had purchased only one dozen bottles of a certain brand of high-grade gin in one year. However, he admitted that from these twelve bottles he had dispensed, during that year, more than one barrel of cheap gin.

DRUGS.

The principal drug samples collected this month were aspirin and castor oil. Aspirin tablets and capsules are still often highly adulterated. The castor oil was adulterated with peanut oil and sperm oil.

Unofficial Samples.

Soap. Twenty-one samples of soap and soap chips were analyzed for state institutions. These samples represent deliveries on contracts, which were based on the percentage of the actual soap content in the original sample submitted. With one exception the actual soap present in the deliveries was less than the actual soap in the original sample. This shortage varies from four to ten per cent. All of these deliveries, which were normal in other respects, were accepted, but a deduction was made from each bill in accordance with the shortage in actual soap.

Incubator Eggs. For many years this department has encountered in various sections of the State dealers who mixed infertile incubator eggs with fresh eggs. A large proportion of infertile eggs are used by bakers, and this practice is not objectionable, provided the eggs are sound and in good condition. However, the mixing of incubator eggs with fresh eggs and selling them all as fresh eggs is clearly an adulteration. Some states have laws prohibiting the sale of incubator eggs which have been in the incubator for more than forty-eight hours. California has no special legislation on this subject and, therefore, in this matter we are governed by section 4 of the food law which states:

"Food shall be deemed adulterated within the meaning of this act * * * if it consists in whole or in part of any filthy, decomposed or putrid animal substance."

The sale of incubator eggs as fresh eggs is covered by section 6 of the food law which prohibits the sale, or offering for sale, of any food under a name, designation, description, or representation which is false or misleading in any particular whatever. Dealers who handle incubator eggs should in all cases notify customers, either by a suitable label or otherwise, that the eggs are incubator eggs.

Cold Storage Samples.

Chili Peppers. Application was made by a number of Japanese for an extension of time, under the Cold Storage Act, on eighteen tons of Chili peppers, which had been in Los Angeles cold storage plants for one year. Representative samples of these peppers were drawn by inspectors and submitted for examination. This examination showed that the peppers contained a large percentage of moldy, decomposed material. This was found to be the result of wetting the sacks and peppers prior to an expected sale. The wetting of the peppers and sacks was done for the purpose of increasing the weight. In such cases it is necessary for the owner to separate the good material from the bad, after which it is again sampled by this department and acted upon in accordance with the merits of the case.

Rancid Butter. This department has recently located several lots of rancid butter in cold storage plants. Some of these lots show excessive rancidity, and are absolutely unfit for human consumption. It appears, however, that a considerable amount of this quality of butter is actually used for food purposes. This department will take action on all material of this character on the ground that it is decomposed and unfit for human consumption.

*Articles in Cold Storage Condemned upon Physical and Chemical Examination
as Unfit for Food.*

Material	Amount	Locality	Condition	Disposition
Eggs, frozen -----	1,226 lbs.	San Francisco	Decomposed	Denatured.
Grapes -----	600 lbs.	Los Angeles---	Moldy-----	Coal oiled.
Persimmons -----	40 lbs.	Los Angeles---	Moldy-----	Coal oiled.
Turkeys -----	46 lbs.	Los Angeles---	Decomposed	Incinerated.

On March 27th, the Director of the Laboratory addressed a meeting of the San Francisco Retail Grocers and Merchants Association on the subject of "New Food Regulations and the Condition of the Food Supplies Handled by Grocers."

Cases referred to District Attorneys, March 4, 1916.

Name of article	Offense	Accused dealer	Locality
Cake -----	Adulterated and mislabeled.	Langendorf Baking Co.-----	San Francisco.
Catsup* -----	Adulterated and mislabeled.	Lewis Packing Co.-----	San Francisco.
Catsup -----	Adulterated and mislabeled.	Pacific Coast Salvage Co.---	San Francisco.
Catsup -----	Adulterated and mislabeled.	Togo Restaurant -----	San Francisco.
Catsup -----	Adulterated and mislabeled.	California Supply Co., Inc.---	San Francisco.
Catsup -----	Adulterated and mislabeled.	Panama Canal Restaurant---	San Francisco.
Catsup -----	Adulterated and mislabeled.	St. Regis Cafe, T. Dina.-----	San Francisco.
Creme de Menthe-----	Mislabeled. Coal tar color not declared.	Santa Clara Wine Co., V. Marks, prop.-----	Los Angeles.
Chopped meat -----	Adulterated. Contained sulfur dioxide.	New York Meat Market, J. Locurto, prop.-----	San Jose.
Condiment -----	Adulterated and mislabeled.	Benzion Salvage Company-----	San Francisco.
Eggs -----	Adulterated and mislabeled.	Hayes Valley Bakery-----	San Francisco.
Eggs -----	Adulterated and mislabeled.	Hayes Valley Bakery-----	San Francisco.
Eggs -----	Adulterated and mislabeled.	Fred L. Hilmer Co.-----	San Francisco.
Eggs -----	Adulterated and mislabeled.	Fred L. Hilmer Co.-----	San Francisco.
Eggs, frozen -----	Adulterated and mislabeled.	Langendorf Baking Co.-----	San Francisco.
Eggs, frozen -----	Adulterated and mislabeled.	Western Meat Co.-----	San Francisco.
Eggs, frozen -----	Adulterated and mislabeled.	Western Meat Co.-----	San Francisco.
Eggs, frozen -----	Adulterated and mislabeled.	Columbus Bakery -----	San Francisco.
Eggs, frozen -----	Adulterated and mislabeled.	I. L. Hilman-----	San Francisco.
Eggs, frozen -----	Adulterated and mislabeled.	E. E. Block-----	San Francisco.
Eggs, frozen -----	Adulterated and mislabeled.	E. E. Block-----	San Francisco.
Eggs, frozen -----	Adulterated and mislabeled.	China-Amer. Produce Co.-----	San Francisco.
Eggs, frozen -----	Adulterated and mislabeled.	Dr. M. A. Schutz-----	Long Beach.
Medicine, The Great Father's.	Mislabeled. Ingredients will not produce effect claimed.	Andrew J. Nor-----	Oakland.
Noodles -----	Adulterated and mislabeled.	Benzion Salvage Co.-----	San Francisco.
Noodles -----	Adulterated and mislabeled.	Benzion Salvage Co.-----	San Francisco.
Noodles, egg -----	Adulterated and mislabeled.	Canton Noodle Factory (guarantor).-----	San Francisco.
Noodles, egg -----	Adulterated and mislabeled.	Canton Noodle Factory (guarantor).-----	San Francisco.
Noodles, egg -----	Adulterated and mislabeled.	Canton Noodle Factory-----	San Francisco.
Noodles, egg -----	Adulterated and mislabeled.	Oakland Noodle Factory-----	Oakland.
Noodles, egg -----	Adulterated and mislabeled.	Republic Noodle Factory-----	Oakland.
Noodles, egg -----	Adulterated and mislabeled.	M. Rapone -----	Oakland.
Noodles, egg -----	Adulterated and mislabeled.	Hong Kong Noodle Factory-----	San Francisco.
Noodles, extra egg -----	Adulterated and mislabeled.	Republic Noodle Factory-----	San Francisco.
Olives -----	Adulterated and mislabeled.	Benzion Salvage Company-----	San Francisco.
Sausage -----	Mislabeled. Contained cereal not declared.	H. N. Edlin-----	San Francisco.

Sausage, pork -----	Adulterated and mislabeled. Contained sulfur dioxide.	New York Meat Market-----	San Jose.
Sausage, bologna -----	Mislabeled. Contains cereal not declared.	A. A. Halverson-----	Santa Clara.
Spice -----	Adulterated and mislabeled. Filthy, decomposed vegetable tissue.	A. A. Halverson-----	Santa Clara.
Tomato, pulp† -----	Adulterated and mislabeled. Filthy, decomposed animal and vegetable tissue.	Simon Salvage Co.-----	San Francisco.
Vermicelli -----	Adulterated and mislabeled. Filthy, decomposed animal and vegetable tissue.	Lewis Packing Co.-----	San Francisco.
Vinegar -----	Adulterated and mislabeled. Substitution of other material.	Simon Salvage Co.-----	San Francisco.
		Rosenmayer & Hirsch (guarantors).	Los Angeles.

*Referred on nine different counts. †Referred on three counts.

Prosecutions Reported during March.

Accused dealer	Locality	Name of article	Offense	Result
Alta Drug Co.-----	San Francisco--	Aspirin tablets; as- pirin capsules.	Adulterated and mislabeled--	Fined \$100.00.
Argonaut Drug Co.-----	San Francisco--	Aspirin tablets	Adulterated and mislabeled--	Fined 25.00.
No Percentage Drug Co.-----	San Francisco--	Aspirin tablets	Adulterated and mislabeled--	Fined 150.00.
No Percentage Drug Co.-----	San Francisco--	Aspirin tablets	Adulterated and mislabeled--	Fined 150.00.
No Percentage Drug Co.-----	San Francisco--	Aspirin tablets	Adulterated and mislabeled--	Fined 25.00.
Wm. P. Ryken-----	Ocean View ---	Camphorated oil	Adulterated and mislabeled--	Fined 25.00.
M. J. De Wood-----	San Francisco--	Catsup	Adulterated and mislabeled--	Fined 25.00.
J. H. Tietjen-----	San Francisco--	Catsup	Adulterated and mislabeled--	Placed on O. R. for 60 days.
Reed Pickle Works-----	San Francisco--	Catsup	Adulterated and mislabeled--	Placed on O. R. for 6 mos.
Nevada Lunch Counter-----	San Francisco--	Catsup	Adulterated and mislabeled--	Placed on O. R. for 30 days.
Paul Condos-----	San Francisco--	Catsup	Adulterated and mislabeled--	Placed on O. R. for 30 days.
Geo. Bonos-----	San Francisco--	Catsup	Adulterated and mislabeled--	Placed on O. R. for 30 days.
J. H. Tietjen-----	San Francisco--	Capers	Adulterated and mislabeled--	Placed on O. R. to May 27.
J. Locurto-----	San Jose-----	Chopped meat	Adulterated	Placed on O. R. 60 days.
J. Locurto-----	San Jose-----	Sausage	Adulterated	Fined \$25.00.
Lazzareschi & Co.-----	San Francisco--	Chopped meat	Adulterated	Fined 25.00.
J. Gollober (nine counts)-----	San Francisco--	Condiments	Adulterated and mislabeled--	Fined 25.00.
V. Marks-----	Los Angeles---	Creme de menthe	Mislabeled	Placed on O. R. 90 days.
D. Helfer-----	Los Angeles---	Eggs	Adulterated and mislabeled--	Fined \$25.00.
Flaws Egg and Poultry Co. (guarantor).-----	Los Angeles---	Eggs	Adulterated and mislabeled--	Fined 15.00.
Sam Seelig-----	Los Angeles---	Eggs	Adulterated and mislabeled--	Fined 20.00.
N. Shapiro-----	Los Angeles---	Eggs	Adulterated and mislabeled--	Fined 20.00.
Vines & Collins-----	Los Angeles---	Eggs	Adulterated and mislabeled--	Fined 10.00.
Vienna Bakery-----	Oakland-----	Eggs	Adulterated and mislabeled--	Fined 25.00.
Oakland Noodle Factory-----	Oakland-----	Noodles	Adulterated and mislabeled--	Fined 10.00.
M. Rapone-----	Oakland-----	Noodles	Adulterated and mislabeled--	Fined 5.00.
Fisher Pickling Co.-----	Oakland-----	Noodles	Adulterated and mislabeled--	Fined 5.00.
W. Weidler-----	San Francisco--	Peppers in brine	Adulterated and mislabeled--	Placed on O. R. for 60 days.
F. J. Steinmetz-----	San Francisco--	Raisins, figs, etc.	Adulterated and mislabeled--	Fined \$50.00.
E. B. Eddy-----	Palo Alto-----	Spirits of nitre	Adulterated and mislabeled--	Fined 25.00.
Rosenmayer & Hirsch (guar- antors).-----	Los Angeles---	Vinegar	Adulterated and mislabeled--	Fined 5.00.
	Los Angeles---	Vinegar	Adulterated and mislabeled--	Fined 30.00.

REPORT OF THE BUREAU OF REGISTRATION OF NURSES FOR MARCH, 1916.

By ANNA C. JAMMÉ, R.N., Director.

The results of the examination of graduate nurses of accredited training schools held February 8-9 were presented at the regular meeting of the Board April 1st, and approved. Certificates were ordered to be issued to the 104 successful candidates.

The Pasadena Hospital Training School, Pasadena, has once more taken the laurel of success. This is the third time in the four examinations held since the establishment of the Bureau that this school has headed the list. St. Luke's Hospital Training School, San Francisco, has been the other successful school.

Training schools from which applicants graduated	Number applied	Number passed	Number failed
Angelus Hospital, Los Angeles	3	3	0
Agnew Sanitarium, San Diego	4	3	1
Burnett Sanitarium, Fresno	1	0	1
County Hospital, Los Angeles	1	1	0
County Hospital, San Diego	1	1	0
County Hospital, Sacramento	1	1	0
County Hospital, French Camp	2	2	0
Clara Barton Hospital, Los Angeles	2	2	0
Columbia Hospital, San Jose	3	3	0
Children's Hospital, San Francisco	4	4	0
East Bay Sanitarium, Oakland	1	1	0
French Hospital, San Francisco	2	2	0
Fairmont Hospital, San Francisco	7	5	2
German Hospital, San Francisco	3	3	0
Good Samaritan Hospital, Los Angeles	3	3	0
Hahnemann Hospital, San Francisco	2	2	0
Hanford Hospital, Hanford	1	1	0
Hazel Hawkins Hospital, Hollister	2	0	2
Lane Hospital, San Francisco	20	17	3
Mater Misericordiae Hospital, Sacramento	1	1	0
Mount Zion Hospital, San Francisco	2	2	0
Pacific Hospital, Los Angeles	5	5	0
Pasadena Hospital, Pasadena	8	8	0
Pomona Valley Hospital, Pomona	1	1	0
Riverside Hospital, Riverside	2	2	0
St. Helena Sanitarium, St. Helena	1	1	0
San Antonio Hospital, Upland	3	3	0
St. Mary's Hospital, San Francisco	1	1	0
St. Francis Hospital, San Francisco	1	1	0
San Francisco Hospital, San Francisco	2	2	0
Santa Ana Hospital, Santa Ana	1	1	0
St. Joseph's Hospital, Stockton	1	0	1
Trinity Hospital, San Francisco	1	0	1
University of California Hospital, San Francisco	6	6	0
White Hospital, Sacramento	3	3	0
Wesley Hospital, Kansas	1	1	0
Massachusetts General Hospital, Boston	1	1	0
Northwestern Hospital, Minneapolis	1	1	0
Greenwich Infirmary, London	1	1	0
Worcester Hospital, Worcester, Mass.	1	1	0
Mercy Hospital, Springfield, Mass.	1	1	0
St. Luke's Hospital, St. Louis, Mo.	1	1	0
Yonkers Homeopathic Hospital, Yonkers, N. Y.	1	1	0
State Hospital, Danvers, Mass.	1	1	0
Craig Colony	1	1	0
Boston City Hospital, Boston, Mass.	1	1	0
State Hospital, Buffalo, N. Y.	1	1	0
St. Vincent's Hospital, Alabama	1	0	1

NAMES OF SUCCESSFUL APPLICANTS.

Name
 Anderson, Annie.
 Aldridge, Amy Lavinia.
 Axe, Zelma Gertrude.
 Byrkit, Grace.
 Bernhard, Rhoda Alice.
 Boehringer, Florence Bertha.
 Beal, Edna Mae.
 Bolter, Blanche Ida.
 Bryson, Maude.
 Camfield, Bernice Elizabeth.
 Case, Nellie Bly.
 Chamberlin, Lucile Beatrice.
 Carey, Adeline Helen.
 Cameron, Janet Eunice.
 Camp, Hilda Mary.
 Christensen, Leona L.
 Cook, Ada Marguerite.
 Chapman, Frances Blanche.
 Doyle, Victoria Lucile.
 Dougherty, Edith.
 Donlan, Theresa Mary.
 Doran, Robin.
 Dodson, Gladys Mae.
 Ford, Maud.
 Forst, Clara Selma.
 Fores, Kathleen Marjorie.
 Fulmer, Della Dundas.
 Grant, Nellie.
 Grose, Dortha.
 Griffith, Rebecca Louise.
 Giacomazzi, Rose Marie.
 Gallagher, Isabel Agnes.
 Gibson, Marie Elizabeth.
 Gray, Margaret.
 Guyette, Helen Louise.
 Hamlin, Laura Frances.
 Humphrey, Emily Angela.
 Hill, Pearl D.
 Hodgkins, Beulah Marguerite.
 Hazelton, Eva Belle.
 Hayden, Ruth Lois.
 Harkness, Ethel.
 Hargens, Marguerita D.
 Hendry, Anne.
 Howeth, Pearle.
 Johnson, Ruth Bowen.
 Johnston, Chestain Marcella.
 Joaquin, Bessie Felismina.
 Kellett, Florence Elizabeth.
 Knudsen, Thea S.
 Lea, Inez Genevieve.
 Loring, Lucy Miles.

Name
 Liebermann, Rosa Katherine.
 Loughlin, Joanna Agnes.
 Lansche, Dessie Mabel.
 Larson, Mathelda Constance.
 Lindblad, Ellen Regina.
 Leonard, Mary Marcella.
 Leonard, Helen Elizabeth.
 Lehman, Marian V.
 Marshall, Cora Crawford.
 Moore, Daisy Elena.
 Nichols, Anabelle Martha.
 Nicholson, Laura Jean.
 Openshaw, Ethel Gertrude.
 Ogg, Charlotte M.
 Poince, Otila.
 Potter, Jennie G.
 Peters, Nell.
 Peers, Martha Celia.
 Powell, Marguerite Rose.
 Royer, Laura.
 Randall, Mary Josephine.
 Reardon, Theresa Patricia.
 Rumsey, Hazel Bernice.
 Rypczynski, Mary Philomenia.
 Ray, Irene.
 Ratcliff, Nellie Tina.
 Sibbald, Luella.
 Sullivan, Nelle R.
 Sheahan, Ruth Dorman.
 Selleck, Eleanore L.
 Staw, Lena Henrietta.
 Stowe, Emma Leslie.
 Sears, Estola Grace.
 Symma, Grace.
 Thompson, Bertha.
 Tierney, Ellen J.
 Twogood, Jessie Caroline.
 Tanner, Anne.
 Thorne, Mildred Eliza.
 Witter, Sadie E.
 Wirt, Margaret Elma.
 Wilde, Alice M.
 Wyatt, Gladys Mary.
 Whitman, Wynnifred.
 Wilson, Anne Steuhouse.
 Walbers, Bernardine.
 Williams, Ethel Dorothy.
 Williams, Mary E.
 Williams, Havilah.
 Wheeler, Ida Bell.
 Warner, Nora Mae.
 Yates, Harriet Mabel.